Final Report
for

J. Pitt Melt Shop
3151 S. California Avenue
Chicago, Illinois

Prepared for

M.S. Kaplan Company
c/o Schwartz, Cooper, Greenberger & Krauss
180 North LaSalle Street
Suite 2700
Chicago, Illinois

Volume I
Report through Appendix D

Prepared February 2003
Burns & McDonnell Project No. 27695

Burns & McDonnell
SINCE 1898

FINAL REPORT

for

J. PITT MELT SHOP
3151 SOUTH CALIFORNIA AVENUE
CHICAGO, ILLINOIS

Prepared for

M.S. KAPLAN COMPANY
c/o SCHWARTZ, COOPER, GREENBERGER & KRAUSS
180 NORTH LASALLE STREET
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CHICAGO, ILLINIOS

FEBRUARY 2003

BURNS & MCDONNELL PROJECT NO. 27695

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EXECUTIVE SUMMARY

M.S. Kaplan Company (M.S. Kaplan) retained Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) to perform removal actions at the J. Pitt Melt Shop located at 3151 South California Avenue, Chicago, Illinois (Site) pursuant to an Administrative Order by Consent (AOC) executed between the United State Environmental Protection Agency (USEPA), the Metropolitan Water Reclamation District of Greater Chicago (MWRD), and M.S. Kaplan.

The Site has historically been utilized for steel processing and related industries, but is currently unoccupied. M.S. Kaplan currently leases the Site from the MWRD. M.S. Kaplan subleased the Site to J. Pitt Melt Shop, Inc. in 1995. J. Pitt Melt Shop, Inc. went bankrupt in 1997 and vacated the Site shortly thereafter. The Site has been unoccupied since J. Pitt Melt Shop, Inc. vacated the Site in 1997. The Site is comprised of approximately 6 acres of land and is improved with one approximately 240,000 square foot building. The Site is bordered to the north by a railroad, to the south by the Chicago Sanitary and Ship Canal, to the east by a scrap yard, and to the west by California Avenue and other industrial and commercial operations.

On April 5, 2001, the City of Chicago Department of Environment (CDOE) discovered artillery shells at the Site. CDOE also observed an oil sheen on the water of the Chicago Sanitary and Ship Canal near the south property line. CDOE requested and received the assistance of the U.S. Army to remove the artillery shells and referred the Site to USEPA. USEPA initiated an emergency response based on its belief that the Site conditions posed an immediate threat to human health and the environment.

USEPA-guided investigations identified potential impacts consisting of total lead, total cadmium, and polychlorinated biphenyls (PCBs). Hazardous substances located within the facility included: resinous material exhibiting 54,000 ppm of PCBs; electric arc furnace dust (defined as listed waste number K061) located in the baghouses within and outside the facility; lead, chromium, and cadmium in dust and ash primarily in the furnace and billet finishing areas; drums and containers with acids, caustics, oils, and solvents staged in the northern portion of the building; Cesium-137 in mold level control devices; and friable suspected asbestos pipe insulation. USEPA observed that the facility had significant vandalism due to numerous openings through the walls, and the front gate that was not secure. The USEPA issued the AOC to M.S. Kaplan and the MWRD.

Based on the results of the USEPA investigation and the requirements of the AOC, Burns & McDonnell created a USEPA approved Site Investigation/Removal Action Work Plan (Work Plan) dated September 2001, which described the scope of work necessary to investigate the potentially hazardous substances located on the Site. The potentially hazardous substances were divided into the following areas in accordance with the AOC:

- Drummed waste
- Baghouse Units
- Former Process Pits
- Damaged Dry Goods
- Radioactive Source Materials Containing Cesium-137
- Pipe Insulation Debris
- Resinous Materials
- Slag Piles
- Surface Soil
- Subsurface Soil
- Investigation of the Alleged Oil-Based Waste Release From the Site
- Maintenance of Booms Adjacent to the Site in the Canal
- Munitions

Burns & McDonnell investigated each area and where necessary collected and analyzed samples to evaluate if the identified material was a hazardous substance.

Based on the actions taken and information gathered, as described in this report, Burns & McDonnell believes that M.S. Kaplan has performed all of the work required by the AOC and that no further action is required pursuant to the AOC. Therefore, Burns & McDonnell requests on behalf of M.S. Kaplan, that USEPA issue a Notice of Completion pursuant to Section XVII of the AOC.

1.0 INTRODUCTION

This final report summarizes the removal activities conducted at the J. Pitt Melt Shop Site (Site) from October 2001 through December 2002. The activities described herein were performed pursuant to the United States Environmental Protection Agency (USEPA) approved Site Investigation/Removal Action Work Plan (Work Plan). A copy of the Work Plan is included in Appendix A.

1.1 SITE LOCATION AND DESCRIPTION

M.S. Kaplan Company (M.S. Kaplan) retained Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) to perform removal actions at the J. Pitt Melt Shop located at 3151 South California Avenue, Chicago, Illinois pursuant to an Administrative Order by Consent (AOC) effective August 14, 2001 between the USEPA, the Metropolitan Water Reclamation District of Greater Chicago (MWRD), and M.S. Kaplan. A copy of the AOC is included in Appendix B. The Site is located in Section 35, Township 39 North, Range 13 East in the City of Chicago, Illinois in Cook County. The Site has historically been utilized for steel processing and related industries. M.S. Kaplan currently leases the Site from the MWRD. Figure 1 presents the location of the Site.

The Site is comprised of approximately 6 acres of land and is improved with one approximately 240,000 square foot building. The building is currently unoccupied. The building consists of three sections: the furnace area at the south end; the billet finishing area in the center; and the office and maintenance and receiving areas at the north end. A guardhouse is located inside the western fenced area of the property. The Site is bordered to the north by a railroad, to the south by the Chicago Sanitary and Ship Canal, to the east by a scrap yard, and to the west by California Avenue and other industrial and commercial operations. Figure 2 presents the Site layout.

* * * * *

2.0 SITE BACKGROUND AND HISTORY

2.1 BACKGROUND

2.1.1 Historical Ownership Background

According to the AOC, the MWRD has owned the Site since at least the early 1900s. In 1918, MWRD and Ketler-Elliott Erection Co. entered into a 99-year lease of the Site property. In 1923, this lease was assigned to Hansell-Elcock Company. In 1961, Hansell-Elcock Company assigned the lease to California Auto Reclamation Co., more than 50% of which was owned by M.S. Kaplan.

Various companies have subleased the Site to process steel, most recently J. Pitt Melt Shop, Inc. M.S. Kaplan subleased the Site to J. Pitt Melt Shop, Inc. in 1995. J. Pitt Melt Shop, Inc. went bankrupt in 1997 and vacated the Site shortly thereafter. The Site has been unoccupied since J. Pitt Melt Shop, Inc. vacated the Site in 1997.

J. Pitt Melt Shop, Inc. was a wholly-owned subsidiary of J. Pitt Steel, Inc. (J. Pitt Steel). J. Pitt Steel is a Pennsylvania corporation organized in 1993 to acquire and operate three rolling mills operated by the Bar, Wire & Rod Division of Bethlehem Steel Corporation.

J. Pitt Steel formed J. Pitt Melt Shop, Inc. in December 1994. J. Pitt Melt Shop, Inc. acquired certain melt shop operations from Charter Electric Melting (including the California Avenue facility) in late 1994. The purpose of the melt shop was to produce various size billets for J. Pitt Steel. It appears that Charter Electric Melting operated the plant from 1981 to December, 1993 when operations ceased. J. Pitt Melt Shop, Inc. operated the facility from late 1994 until about January 1997.

Both J. Pitt Melt Shop, Inc. and its parent company, J. Pitt Steel, filed Chapter 11 bankruptcy petitions in December, 1997. J. Pitt Melt Shop, Inc.'s reorganization plan (which included an auction of assets to satisfy a secured debt to CIT Group/Credit Finance, Inc.) was approved in 1999. It appears that the plant was effectively abandoned by J. Pitt Melt Shop Inc., upon cessation of operations in January 1997.

2.1.2 USEPA Early Response Actions

On April 5, 2001, the City of Chicago Department of Environment (CDOE) discovered artillery shells at the Site. CDOE also observed an oil sheen on the water in the Chicago Sanitary and Ship Canal near the south property line. CDOE requested and received the assistance of the U.S. Army to remove the artillery shells and referred the Site to USEPA. USEPA initiated an emergency response based on its belief that the Site conditions posed an immediate threat to human health and the environment.

On April 6, 2001, the USEPA's On-Scene Coordinator (OSC), Brad Benning, mobilized Ferguson Harbor, Inc. (Ferguson Harbor), to the Site to assist with Site work. In addition, the USEPA and Illinois Department of Nuclear Safety (IDNS) performed a radiation survey of the Site building. Four large steel kettles in the northwest portion of the building were identified as containing radioactive materials,

specifically Cesium-137. Another potential source of Cesium-137 was discovered in a room between the billet finishing area and the furnace area. USEPA performed and guided various response actions at the Site from April 5 through April 18, 2001.

In summary, the USEPA-guided response actions identified potential impacts of total lead, total cadmium, and PCBs. Hazardous substances located within the facility included: resinous material containing 54,000 ppm of PCBs; electric arc furnace dust (K061) located in the baghouses within and outside the facility; lead, chromium, and cadmium in dust and ash primarily in the furnace and billet finishing areas; drums and containers with acids, caustics, oils, and solvents staged in the northern portion of the building; Cesium-137 in mold level control devices; and friable suspected asbestos pipe insulation. USEPA noted that the facility had significant vandalism due to numerous openings through the walls, and the front gate that was not secure. The USEPA summaries of its response actions are presented in Appendix C, and a map showing USEPA sampling locations is presented in Figure 3.

In a conference call on April 6, 2001, USEPA issued general notice of potential liability to potentially responsible parties (PRPs) MWRD and M.S. Kaplan. On April 10, M.S. Kaplan responded that it would perform work necessary to abate the release, or threat of release, of certain hazardous substances at the Site. MWRD also responded that it would agree to fund all of USEPA's currently anticipated actions required to abate the release or threat of release from the Site.

2.2 ADMINISTRATIVE ORDER BY CONSENT (AOC)

The USEPA AOC for the J. Pitt Melt Shop identified the following hazardous materials located within the facility:

- resinous material, containing 54,000 ppm of PCBs, that appeared to have spilled from a capacitor;
- suspect electric arc furnace dust (K061) located in baghouses within and outside of the facility;
- lead, chromium and cadmium in dust and ash primarily in the furnace and billet finishing areas; and
- drums and containers with acids, caustics, oils and solvents located throughout the facility.

Other environmental conditions identified in the AOC included:

- radioactive sources of Cesium-137 in mold level control devices;
- friable suspect asbestos pipe insulation;
- broken bags of granular and powderous materials; and
- a release of oil-based waste into the Chicago Sanitary and Ship Canal.

A copy of the AOC is included in Appendix B.

* * * * *

3.0 SUMMARY OF WORK

The following sections describe the scope of work as outlined in the USEPA approved Burns & McDonnell Site Investigation/Removal Action Work Plan (Work Plan) dated September 2001 and included in USEPA approved Burns & McDonnell Notices and work plan letters subsequently submitted. A copy of the Work Plan is included in Appendix A. The Notices and work plan letters include the following:

- *Notice for Baghouse Dust Removal Activity,* dated April 18, 2002 (Baghouse Notice),
- *Notice of Removal Activities for Ten Radioactive Wear Indicator Needles and Fallen Asbestos Pipe Insulation,* dated May 15, 2002 (Radioactive and Fallen Asbestos Notice),
- *Work Plan Letter for Additional Surface Soil Sample Collection,* dated August 16, 2002 (Surface Soil Work Plan Letter), and
- *Notice for Drummed Waste & Smaller Container Removal Activity,* dated November 5, 2002 (Drummed Waste Notice).

Copies of the Notices and work plan letters are included in Appendix D.

Burns & McDonnell prepared and implemented a Health and Safety Plan (HASP) for the Site to address Burns & McDonnell employees, subcontractors, and site visitors. Burns & McDonnell amended the HASP as new conditions presented themselves. The first amendment added action levels for Total Suspended Particulates (TSP) with the presence of metals and the second amendment added response actions in the event of encountering a trespasser at the Site. The Burns & McDonnell HASP and amendments to the HASP are included in Appendix E.

3.1 DRUMMED MATERIAL

The Work Plan specified that Burns & McDonnell inventory, open, assess, analyze, and categorize the drums and smaller containers located at the Site. The subsequent Drummed Waste Notice required that Burns & McDonnell further categorize, and remove and dispose of the drums and smaller containers.

3.2 BAGHOUSE UNITS

The Work Plan specified that Burns & McDonnell estimate the approximate quantity of baghouse dust, and collect and analyze two soil/dust samples within the baghouses located both inside and outside the facility. The subsequent Baghouse Dust Notice specified that Burns & McDonnell empty and decontaminate the defined baghouse units, and dispose of the baghouse dust and decontamination water.

3.3 FORMER PROCESS PITS

The Work Plan specified that Burns & McDonnell collect and analyze up to six liquid samples from the open pits located within the facility. The Seventh Monthly Progress Report specified that a risk assessment to evaluate the risk posed by exposure to the liquid identified within the pits would be generated.

3.4 DAMAGED DRY GOODS

The Work Plan specified that Burns & McDonnell collect and analyze up to two composite samples from among the damaged dry goods within the facility for waste characterization. Depending on the results of the waste characterization, Burns & McDonnell was to arrange for the appropriate disposal methodology.

3.5 RADIOACTIVE SOURCE MATERIALS CONTAINING CESIUM-137

The Work Plan specified that Burns & McDonnell retain a certified radioactive technician to test, remove, transport, and dispose of the exempt radioactive source rods located within the four billet formers and confirm that there was no residual radioactivity within the billet formers. In addition, the Work Plan specified radioactive material inside a box near a billet former that was to be tested, removed, transported, and disposed.

3.6 ASBESTOS FROM FALLEN PIPE INSULATION

The Work Plan specified that Burns & McDonnell perform site reconnaissance to identify, collect, and analyze the pieces of friable suspect asbestos pipe insulation that fell onto the floor of the facility. If the samples revealed that the suspect materials contain more than one percent asbestos, an asbestos abatement contractor was to be retained to remove the asbestos debris. The Radioactive and Fallen Asbestos Notice required Burns & McDonnell to oversee the removal of the fallen asbestos pipe insulation to a licensed asbestos disposal facility.

3.7 RESINOUS MATERIAL CONTAINING 54,000 MG/KG OF PCBS

The Work Plan specified that Burns & McDonnell visually assess areas previously identified by the USEPA to be impacted by PCBs, and to collect and analyze three surface soil samples to a depth of 1 foot below ground surface (bgs) to evaluate the horizontal extent, if any, of PCB-containing resinous materials.

The Work Plan also indicated that Burns & McDonnell would dig test pits to a maximum depth of 8 feet bgs within the facility near the location of the identified resinous material to identify the presence of suspect transformer oils or structures leaking transformer oils, if present.

3.8 SLAG PILES

The Work Plan specified that Burns & McDonnell collect and analyze three dust samples from the suspect slag dust piles located at the Site. Depending on the results of the waste characterization, Burns & McDonnell would arrange for the disposal of the waste.

3.9 SURFACE SOIL

The Work Plan specified that Burns & McDonnell collect, composite, and analyze up to twelve surface soil samples from the upper 1 foot of the soil horizon for lead, chromium, and cadmium. The Surface

Soil Work Plan Letter required that Burns & McDonnell collect, composite, and analyze 16 additional surface soil samples for hexavalent chromium, perform air monitoring during sample collection, and perform a streamlined risk assessment of the soil at the Site to evaluate the potential human health risks posed by the detected metals in soil and dust from the Site.

3.10 SUBSURFACE SOIL

Burns & McDonnell conducted a subsurface soil probing investigation to evaluate the vertical extent of the dust-like fill material in the southeast area of the Site, as required in the AOC, and to evaluate if the alleged release of oil was present in this area of the Site. The Work Plan specified test pits to be performed near the vicinity of the alleged source of the oil release; however, due to Site conditions, soil probes were instead conducted.

3.11 ALLEGED RELEASE OF OIL BASED WASTE FROM THE SITE

The Work Plan specified that Burns & McDonnell review historical Sanborn Fire Insurance maps (Sanborn maps) of the Site for the potential for the presence of underground storage tanks (USTs) in the vicinity of the alleged source of the oil based waste on the Site prior to any test pit excavation activities.

The Work Plan specified that Burns & McDonnell visually evaluate the oil spillage into the canal to determine if the source area was from the Site. This investigation was to involve a visual reconnaissance of the canal wall along the south edge of the Site. In addition, test pits were to be performed in the vicinity of the alleged source of the oil based waste on the Site. The test pits were to be performed to a maximum depth of 8 feet bgs. If oil was identified from within the test pits, up to five samples were to be collected from the test pit(s) and analyzed for PCBs.

3.12 MAINTENANCE OF BOOMS ADJACENT TO THE SITE IN THE CHICAGO SANITARY AND SHIP CANAL

The Work Plan specified that Burns & McDonnell visually evaluate and maintain an oil sorbent boom on the Chicago Sanitary and Ship Canal installed to capture the visible oily sheen on the canal water. If necessary, Burns & McDonnell would replace the oil sorbent boom and arrange for disposal of the used boom at an appropriate disposal facility.

3.13 MUNITIONS

No work was performed by Burns & McDonnell in removing munitions from the Site. As described in Appendix C, all munitions were removed by the U.S. Army in April 2001 under direction of the CDOE.

* * * * *

4.0 SUMMARY OF TOTAL COST

The total cost of the engineering, analyses, assessment, and disposal incurred by M.S. Kaplan to complete the removal actions associated with the USEPA AOC was $429,128.50. Burns & McDonnell developed cost estimates prior to implementation of a specific scope of work and included them in a letter agreement for engineering services (Letter Agreement). Cost estimates were updated and revised in four (4) subsequent change orders to the Letter Agreement. M.S. Kaplan approved of the Letter Agreement and four of the change orders. In addition, Burns & McDonnell submitted a Scope of Additional Services letter dated June 13, 2002 to M.S. Kaplan to include additional services in Change Order No. 3 Revision. M.S. Kaplan did not approve Change Order No. 1.

Burns & McDonnell invoices are included in Appendix F1. The Burns & McDonnell Letter Agreement, the four approved change orders, and the Scope of Additional Services letter are included in Appendix F2 through F7. In order to execute select items of the Work Plan, Notices, and Work Plan Letter(s), subcontract agreements and addenda to these subcontract agreements and purchase orders were executed between Burns & McDonnell and third party Subcontractors and vendors. All of these subcontracts and addenda and purchase orders are included in Appendix G.

* * * * *

5.0 SUMMARY OF WORK COMPLETED

Since Burns & McDonnell received approval of the Work Plan from the USEPA on September 17, 2001, Burns & McDonnell completed the requirements of the Work Plan. Burns & McDonnell completed the requirements of the subsequent Baghouse Notice, Radioactive and Fallen Asbestos Notice, Surface Soil Work Plan Letter, and Drummed Waste Notice based on verbal approval from Mr. Bradley Benning, On-Scene Coordinator of the USEPA.

As required in the AOC, Burns & McDonnell submitted Monthly Progress Reports (MPRs) to the USEPA in cycles of 30 days from the date of receipt of USEPA approval of the Work Plan. The MPRs summarized the status of each area of investigation during the course of removal action. The 16 MPRs are included in Appendix H.

The following sections summarize the method of completion of each area of the investigation of the Site:

5.1 DRUMMED MATERIAL

From October 29 through November 9, 2001, Burns & McDonnell monitored and documented the activities of its subcontractor, SET Environmental, Inc. (SET), during its categorization and screening of 196 drums and other miscellaneous containers ranging in individual capacity from 20 to 175 gallons. SET also categorized and screened approximately 293 miscellaneous containers ranging in capacity from 1 ounce to 5 gallons. From October 29 through November 4, 2001, SET accomplished the hazardous categorization screening by opening each container and visually assessing the physical appearance of the contents and the condition of the container. During this time, SET conducted screening tests of drum liquids to determine pH and the presence of oxidizers.

Burns & McDonnell used the data obtained during the visual assessment and screening to sort and group drums and containers with contents that appeared similar. Burns & McDonnell and SET returned to the Site on November 8 and 9, 2001 to conduct field screening of the grouped and sorted drums. Burns & McDonnell and SET conducted field screening of drums for PCBs using the Chlor-n-oil PCB field test kit, while SET conducted field screening of drums for cyanide, sulfide, mercury and peroxide. The observations of initial field screening of the drums are summarized in Table 1. SET's notes regarding the field screening of the miscellaneous containers is included in Appendix I.

As identified in the MPRs, Burns & McDonnell received bid requests and evaluated bid requests for the removal and disposal of the drums and their contents. The twelfth MPR indicated that Burns & McDonnell accepted the bid from SET to remove the existing drums and smaller containers identified at the Site. The thirteenth MPR indicated that a cost estimate and scope of work for disposal of the identified drums and smaller containers was submitted to, and subsequently approved by, M.S. Kaplan.

Burns & McDonnell submitted the Drummed Waste Notice to the USEPA, which outlined proposed removal activities of the drums and containers located at the Site. Based on field screening results, the drums were categorized as follows and the drums were then sampled to determine specific waste stream:

- Apparent non-PCB impacted oil containing drums,
- Suspect PCB-impacted oil containing drums,
- Hazardous waste liquids,
- Non-hazardous waste liquids,
- Hazardous waste solids,
- Non-hazardous waste solids.

5.1.1 Sampling of Oil-Containing Drums

88 drums of apparent non-PCB oil and 10 drums of suspect PCB oil were initially identified during characterization activities in November 2001. Two drums of oil were generated from lab-packing in November 2002 as apparent non-PCB. The 90 drums (88 + 2 drums) of apparent non-PCB impacted oil were organized into groups of ten drums, with nine groups organized and labeled as Groups A through I. These groups were segregated for confirmation of PCB impact. SET collected a composite sample from each group, totaling nine composite samples. Table 2 presents a listing of the drums included in each of the nine composite samples. Burns & McDonnell also collected three split samples with SET from select groups (Groups C, E, and I) of the suspect non-PCB oil drums to compare to the SET sample results. SET's laboratory analytical results identified 80 of the 90 suspect non-PCB oil drums as non-detect for PCBs. Laboratory analysis of the composite sample from Group I identified the PCB Aroclor-1254 at a concentration of 1,400 mg/kg. The Burns & McDonnell sample Drum-005 was also collected from Group I and laboratory analysis detected a PCB concentration of 660 mg/kg. Because of these PCB detections, SET began a second round of sampling of Group I to identify which of the drums may be contributing to the PCB impact.

A grab sample was collected from each of eight drums, while one composite sample was collected from two drums. Of these nine samples, only one sample from the drum labeled Lab Pack #1 contained PCBs at a concentration of 2,700 mg/kg. This PCB oil drum was developed during the lab packing of the oil identified within the smaller containers group. The results of the SET PCB composite drum samples are summarized in Table 3 and the sample results from the additional sampling of Group I for PCBs from the single drums are summarized in Table 4. The Burns & McDonnell composite sample PCB results are presented in Table 5.

SET collected one grab sample from each of the ten initially identified suspect PCB impacted oil drums (Drums 27, 56, 70, 73, 74, 139, 140, 150, 175 and 184). Burns & McDonnell also collected one sample each from two suspect PCB drums (Drums 56 and 184) to compare to the SET sample results. Laboratory analysis of the ten suspect PCB drum samples collected by SET and the two suspect PCB drum samples collected by Burns & McDonnell identified the drums as non-detect for PCBs. Therefore, these ten drums of oil were segregated as non-PCB oil drums. The results of the suspect PCB drum

samples collected by SET are summarized in Table 6. The results of the suspect PCB drum samples collected by Burns & McDonnell are summarized in Table 5.

Since 99 drums of oil were segregated as non-PCB oil, these drums were segregated for pumping and transport using a vacuum truck and disposal as a non-regulated waste on a Uniform Hazardous Waste Manifest, and one oil drum was segregated to be removed as oil containing greater than 50 ppm of PCBs.

5.1.2 Sampling of Remaining Drummed Material

In addition, SET collected a composite sample from the 14 drums containing the oil sorbent booms for PCB analysis. Laboratory analysis of the composite boom sample was non-detect for PCBs; therefore the oil sorbent booms were placed in the roll-off box for non-hazardous special waste disposal. The results of the SET PCB sampling of the boom are included in Table 3. Based on the absence of detectable PCBs in the oil sorbent booms no PCB oil appears to be discharging to the canal.

SET also collected a composite sample for laboratory analysis of PCBs from among 27 drums identified as non-hazardous liquids. Since the laboratory analysis identified no detectable concentrations of PCBs, these 27 drums were included with the 99 drums of oil for pumping and transport using a vacuum truck. The results of the composite sample from these drums are included in Table 4.

SET collected and analyzed samples from the different material streams to determine waste characterization:

- One composite sample from one of the roll-off boxes, which contained clay, calcium carbonate, and residual xylenes;
- One composite sample of the hazardous liquid organic alkaline drums, which contained water, sodium hydroxide, sodium nitrate, sodium nitrite, surfactant, and sodium phosphate;
- One composite sample from the hazardous liquid acid drums, which contained phosphoric acid, water, ethoxylated surfactant, and sodium phosphate;
- One composite sample from the hazardous liquid halogenated oil, which contained 1,1,1-trichloroethane with residual toluene, xylenes, decane, undecane, dodecane, tridecane, tetradecane, pendadecane, and hexadecane; and
- One composite sample from the non-hazardous waste liquids, which contained water, ethoxylated surfactant, diethylene glycol, ethylene glycol, propylene glycol, undecane, dodecane, tridecane, tetradecane, pendadecane, and hexadecane with residual ethanol, propanol, and sodium phosphate.

Burns & McDonnell also collected a sample of a drum containing solid materials. Prior to segregating Drum #88 as a special waste, Burns & McDonnell collected one grab sample from this drum since it appeared similar to soil previously excavated at the Site, and analyzed it for PCBs and TCLP metals to determine if it exhibited the characteristic of a hazardous waste. The sample was non-detect for PCBs

and below regulatory limits for TCLP metals, so the drum was placed in one of the rolloff boxes for disposal. Table 7 presents the analytical results from this sample. Laboratory analytical data from Burns & McDonnell drum samples is presented in Appendix J and a Burns & McDonnell data validation memorandum is included in Appendix K. SET's laboratory analytical data is presented in Appendix L.

5.1.3 Final Categorization of Drums and Smaller Containers

Before drum removal offsite, Burns & McDonnell and SET compiled a final inventory of the drums and waste categories, which is included as Table 8. A summary of the final inventory is as follows:

- 1 container of paint-related materials,
- 99 drums of non-PCB oil,
- 1 drum of PCB-containing oil,
- 20 drums of hazardous liquids,
- 26 drums of non-hazardous liquids,
- 9 drums of hazardous solids,
- 41 drums of non-hazardous solids, and
- 1 empty drum formerly identified as containing hazardous liquid.

The initial approximately 293 smaller containers were segregated by waste stream and, if possible, packed into several lab pack containers for disposal or consolidated with the drums and larger containers on-Site. Appendix I presents SET's initial inventory of the smaller containers. Non-regulated solids were placed in the rolloff box for special waste disposal. Several of the small containers of grease were lab packed and consolidated into three drums (2 55-gallon and 1 25-gallon) together with the 25-gallon and larger drums of grease identified in the drum inventory in Table 1. The aerosol cans identified as #322 on SET's initial inventory of smaller containers were lab packed into one 30-gallon fiber drum. The paint-related material containers were individually observed by SET for condition, and if acceptable, placed into one cubic-yard box for consolidated transport. If SET observed that the containers were not acceptable for placement into the one cubic-yard box, they were overpacked into another container and placed into the box. The drum of mineral spirits from the drum inventory, drum #62, was overpacked into two 5-gallon fiber drums and placed into the one cubic-yard box.

The smaller containers identified as non-regulated liquids were consolidated in drum #83 and one other metal drum. SET collected a composite sample from these two drums along with the 26 drums of non-hazardous liquids, and laboratory analysis indicated no detectable concentrations of PCBs. Therefore, these two drums were pumped and transported using a vacuum truck.

The smaller containers of bases were bulked into one 55-gallon metal 3/8 PGII drum. The liquid contents of Drum #196 were also combined into the 55-gallon metal 3/8 PGII drum. This 3/8 PGII drum was removed as a hazardous waste liquid.

The smaller containers of oils were bulked into two 55-gallon metal drums (Lab Pack #1 and #2). A sample collected from Lab Pack #1 contained a PCB concentration of 2,700 mg/kg and a sample collected from Lab Pack #2 was non-detect for PCBs. All of the smaller containers that stored the oil were consolidated into 6 drums for removal as PCB solid material, due to the oil in Lab Pack #1 with detectable PCB concentrations.

A summary of the seven lab pack inventory containers is as follows:

- Lab Pack #1 (JP-1) contained organic mercury
- Lab Pack #2 (JP-2) contained piric acid
- Lab Pack #3 (JP-3) contained organic acids
- Lab Pack #4 (JP-4) contained batteries
- Lab Pack #5 (JP-5) contained activated charcoal
- Lab Pack #6 (JP-6) contained acids and toxic oxidizers
- Lab Pack #7 (JP-7) contained solvents

Appendix M presents a categorized inventory of the small containers.

5.1.4 Removal and Disposal Categorization

On December 3, 2002, SET mobilized a 6,000-gallon capacity vacuum truck to the Site, and pumped approximately 4,400 gallons of non-hazardous liquids and oil. The non-hazardous liquids were transported to Beaver Oil Company, Inc. in Hodgkins, Illinois for recycling as fuel blend. Manifests generated during this removal process are included in Appendix N1.

SET removed the rolloff boxes, remaining drums, compressed gas cylinders, and lab pack containers from the Site on December 23, 2002 and transported them to the proper disposal facilities as follows:

<u>PCB-impacted oil containing drums</u>

- 1 drum of oil with a PCB concentration of 2,700 mg/kg was transported as a hazardous waste liquid to Clean Harbors PPM, LLC in Twinsburg, Ohio, a Toxic Substances Control Act (TSCA) permitted facility, for incineration.

<u>Hazardous waste liquids</u>

- 6 drums of phosphoric acid mixture, 4 drums of liquid bases that were overpacked into four drums (which includes the metal 3/8 PGII drum from the lab pack activities), 1 drum of halogenated oil, 5 drums of hydrochloric acid, 3 drums of liquid organic alkalines, 1 drum of oxidizing organic alkalines, and 1 cubic-yard box of paint-related materials were transported to SET Environmental, Inc. in Houston, Texas. The drums once received by the facility were treated by one of the following: neutralized and bulked offsite as non-hazardous, incinerated, or fuel-blend recycled.

Hazardous waste solids

- 6 drums of baghouse dust were transported to Michigan Disposal Waste Treatment in Belleville, Michigan for landfill disposal.
- 1 drum of batteries filled with acid was transported to Mercury Waste Solutions, Inc. in Union Grove, Wisconsin for recycling.
- 1 drum containing one PCB-impacted capacitor was transported to Superior Special Services, Inc. in Phoenix, Arizona, a TSCA permitted facility, for incineration.
- 6 drums of PCB-impacted smaller containers that were generated during lab packing of the smaller containers were transported to Clean Harbors PPM, LLC in Twinsburg, Ohio a TSCA permitted facility, for incineration.
- 1 drum of toxic solid fluorosilicates, and 1 container of flammable aerosols were transported to SET Environmental, Inc. in Houston, Texas. The toxic solid was bulked into a rolloff box for eventual hazardous landfill disposal, and the aerosol gases were treated and the metal containers were cut and scrapped for recycling.

Non-hazardous waste solids

- 2 15-yard rolloff boxes were removed from the Site as non-hazardous special waste and disposed of at Waste Management's Settler's Hill Landfill in Batavia, Illinois.
- 9 drums of grease were overpacked into 2 55-gallon drums and 1 25-gallon drum and transported as non-regulated waste on a hazardous waste manifest to Michigan Disposal Waste Treatment in Belleville, Michigan for landfill disposal.

Initial drum and smaller container characterization activities in November 2001 identified six gas cylinders at the Site. An additional five gas cylinders were identified during drum removal activities at the Site. One of the eleven total gas cylinders was identified by SET as empty and placed in a rolloff box for special waste disposal. The remaining ten compressed gas cylinders were removed from the Site as hazardous waste and transported to SET Environmental, Inc. in Houston, TX for treatment and the cylinders were cut and scrapped for recycling. The ten gas cylinders removed as hazardous waste are as follows:

- 1 cylinder of dichlorodifluoromethane;
- 1 cylinder of waste compressed oxygen;
- 1 cylinder of waste propane;
- 2 cylinders of refrigerant gases; and
- 5 cylinders of liquefied waste petroleum gases.

The seven lab packed containers (JP-1 through JP-7) were removed from the site as hazardous waste and transported to SET Environmental, Inc. in Houston, TX for one of the following treatments: neutralized and bulked offsite as non-hazardous, incinerated, or fuel-blend recycled. 102 empty 55-gallon drums were transported to Meyer Steel Drum, Inc. in Chicago, Illinois for recycling.

A smaller container containing Thorium Nitrate, a suspect radioactive material, was removed from the Site on December 26, 2002 by ADCO. ADCO transported the waste to their facility in Tinley Park, Illinois for eventual disposal or recycling at Race Environmental, Inc. in Memphis, Tennessee or Banwell in Barnwell, South Carolina.

Manifests, bills of lading, Land Disposal Restriction (LDR) forms, cylinder inspection reports, and other supporting documents associated with the drum and container removal are included as Appendix N1. Photographs of the drum inventory, categorization, and removal in addition to other characterization and removal activities are included in Appendix O.

The drummed material was removed from the Site and disposed of in accordance with the AOC and Work Plan, therefore Burns & McDonnell concludes that no further action is necessary with the drummed material.

5.2 BAGHOUSE UNITS

On October 26, 2001, Burns & McDonnell visually evaluated two apparent baghouse units, one silo and one apparent storage container near the cooling tower at the Site, to estimate the volume and contents of these units. Figure 4 shows the locations of the baghouse units and storage containers.

Burns & McDonnell collected one composite sample (BH-001) of the powder materials within the baghouse units BH1 and BH4 for laboratory analysis of cadmium, chromium, and lead, and the waste disposal parameters R-Code and Extractable Organic Halogens (EOX), in addition to PCBs, TCLP metals (antimony, beryllium, nickel, thallium, and zinc) and the non-aqueous liquid phase (NALP) test. Sample results for total metals are included in Table 9 and sample results for waste disposal parameters are included in Table 10. Laboratory analytical results are included in Appendix J.

Burns & McDonnell forwarded the results of the baghouse unit samples to Waste Management. Waste Management approved the baghouse dust for disposal at its CID Area 4 Subtitle C landfill as a hazardous waste.

Burns & McDonnell submitted to the USEPA the Baghouse Notice, which outlined proposed removal activities of the baghouse dust. From April 22, 2002 through May 10, 2002, Burns & McDonnell oversaw the removal of the baghouse dust located within the baghouse units. Burns & McDonnell engaged SET Environmental, Inc. to perform the removal and decontamination effort. Burns & McDonnell's *Baghouse Dust Removal Activity Summary,* dated June 17, 2002, provides a detailed description of the baghouse dust removal activities (Appendix P). A total of seven rolloff containers of waste totaling 35.58 tons were removed through May 10, 2002. Ambient air monitoring for dust during baghouse dust removal activities was performed by Burns & McDonnell at four locations near the baghouse units. The locations are shown on Figure 5. Photos of the baghouse dust removal activity are included in Appendix O.

On August 5 2002, Burns & McDonnell observed the removal of 26 55-gallon drums of rinsate water (rinsate drums) generated from the decontamination of the baghouse units and also observed the removal of one roll-off container with visqueen and personal protection equipment (PPE). The K061 electric-arc furnace dust impacted visqueen and PPE were managed as hazardous waste. SET Environmental transported the rinsate drums to the EQ Michigan Disposal Waste Treatment Plant in Belleville, Michigan. Dart Trucking transported the roll-off container to Waste Management's CID Subtitle C landfill. Copies of the hazardous waste manifest forms and LDR forms provided to Dart Trucking and SET Environmental is included in Appendix N2.

The K061 baghouse dust, rinsate drums, and K061 impacted visqueen and PPE have been removed from the Site and disposed of in accordance with the AOC, the Work Plan, and the Baghouse Notice, therefore Burns & McDonnell concludes that no further action is necessary with the baghouse units.

5.3 FORMER PROCESS PITS

On October 24 and 25, 2001, Burns & McDonnell collected a total of six liquid samples (SW-01 through SW-06) from six pits and sumps located within the building on the Site. The locations of these pits are presented in Figure 4. Burns & McDonnell collected one composite water sample from each pit using a pond sampler. The water samples were submitted to Test America for laboratory analysis for total lead, total chromium, total cadmium, and PCBs.

Test America identified detectable concentrations of total lead in all liquid samples with the exception of the liquid sample SW-06, and detectable concentrations of chromium in two liquid samples, specifically SW-04, and SW-05. Test America identified detectable concentrations of total chromium at 0.104 mg/L and 0.045 mg/L in liquid samples SW-04 and SW-05 respectively, and total lead ranging from 0.0061 mg/L to 0.267 mg/L. Liquid sample SW-04 exhibited the highest total chromium and lead concentrations. Test America detected no cadmium in any of the six liquid samples analyzed.

Test America identified detectable concentrations of the PCB Aroclor 1242 ranging from 0.00037 to 0.0094 mg/L in samples SW-04, SW-05, and SW-06 and Aroclor-1260 in samples SW-01 and SW-06. Sample SW-04 had the highest detectable Aroclor 1242 concentration. Test America identified Aroclor 1260 in sample SW-01 at a concentration of 0.00025 mg/L and in sample SW-06 at a concentration of 0.00028 mg/L. Test America detected no other concentrations of PCBs. A summary of the former process pit water sample results is included in Table 11 and laboratory analytical data for the former process pit water samples is included in Appendix J. A Burns & McDonnell data validation memorandum, which includes the former process pit water samples, is included in Appendix K.

Because USEPA has not published screening levels for metals or PCBs in surface water, Burns & McDonnell conducted risk-based calculations for the water contained within the former process pits, dependent upon the visually apparent conditions and integrity of the pits. Potential human health risks

were evaluated for worker exposure to chemicals of potential concern (COPCs) in surface water from the former process pits. COPCs were identified as those constituents detected in surface water samples collected from each of the six pits. Based on Site conditions, Burns & McDonnell concluded that future populations could be exposed to metals and PCBs through inhalation of chemical vapors and/or direct contact with surface water. The receptor populations evaluated included future industrial workers and future construction workers. Chemical doses were calculated for each receptor scenario using standard USEPA exposure pathway equations for intake from dermal contact (construction worker scenario only) and inhalation of chemical vapors (industrial worker and construction worker scenarios).

Excess lifetime cancer risks for both receptor scenarios did not exceed the USEPA acceptable risk range of 1E-04 to 1E-06. Hazard indices for both receptor scenarios were at or below 1, indicating noncancer health risks are unlikely. Given the results of these calculations, exposure to constituents identified in surface water from the former process pits is unlikely to pose appreciable human health risk. The Surface Water/Former Process Pits Human Health Risk Evaluation letter report that was submitted to USEPA in July 2002 is included as Appendix Q1.

Burns & McDonnell evaluated the liquids in the former process pits in accordance with the AOC and the Work Plan. Based on the risk assessment conclusion that "surface water from the former process pits is unlikely to pose appreciable human health risk," Burns & McDonnell concludes that no further action is required with the former process pits.

5.4 DAMAGED DRY GOODS

On October 25, 2001, Burns & McDonnell collected two samples of the damaged dry goods for laboratory analysis of waste disposal parameters specified by Waste Management, as described below:

- R-code which includes the following:
  - pH, by Method SW 9045B,
  - Paint filter by Method SW 9095A,
  - Reactive sulfide by Method SW 7.3/9034,
  - TCLP Volatile Organic Compounds (VOCs) by Method SW 8260B,
  - TCLP Semi-Volatile Organic Compounds (SVOCs) by Method SW 8270B,
  - TCLP metals by Method SW 6010B,
  - Total cyanide by Method SW 9012A,
  - Flashpoint by ASTM D92-90,
  - Total solids by Method SM 2540,
  - Total phenols by Method SW 9066,
  - Water reactivity by Method ASTM D 5058
- F-code solvent scan which includes the following:
  - F001-5 VOCs by Method 8260B,

- F001-5 SVOCs by Method 8270B
- EOX S 9020 Modified

Sample DDG-01 was a composite sample of a white powder material located northwest of the cooling tower. Sample DDG-02 was a composite sample of solid yellow chips from a box located near the baghouse unit and sandy material from a small container located near the billet caster mold at the western portion of the building on the Site. A summary of the waste characterization results of the damaged dry goods samples is included in Table 10. The laboratory analytical data is included in Appendix J.

Burns & McDonnell forwarded the results of the damaged dry goods samples to Waste Management's Special Projects Group (Waste Management) to determine if Waste Management would accept the materials at its CID landfill as a non-hazardous waste. Waste Management indicated that it would accept the dry damaged goods as non-hazardous special waste at a Waste Management facility. However, Waste Management indicated that to classify the dry damaged goods as special waste, documentation would be required clarifying the presence of detectable concentrations of TCLP trichloroethene and clarifying the absence of PCB analysis of the dry damaged good samples.

Burns & McDonnell submitted documentation to Waste Management clarifying the presence of detectable concentrations of the TCLP trichloroethene in the dry damaged goods samples (DDG-01 and DDG-02) in a letter dated May 16, 2002. Waste Management requested further documentation clarifying why no PCB analysis was performed on the dry damaged goods samples. Burns & McDonnell indicated in a letter to Waste Management dated May 24, 2002, that there is no basis upon which to conclude that these apparent products would contain PCBs, since the samples are from bagged products damaged by water, which apparently caused the bags to break and spill; not from an industrial or process waste stream. Waste Management verbally accepted both letter documents in a telephone conversation with Burns & McDonnell on May 29, 2002, and indicated that the dry damaged goods would be accepted as a non-hazardous special waste at its Settler's Landfill in Batavia, Illinois. Copies of the Burns & McDonnell letters sent to Waste Management are included in Appendix R.

The dry damaged goods were evaluated and confirmed to be non-hazardous special waste and therefore do not require disposal to comply with the AOC or Work Plan. Based on the results of this investigation, Burns & McDonnell concludes that no further action is necessary with the dry damaged goods.

5.5 RADIOACTIVE SOURCE MATERIALS CONTAINING CESIUM-137

On October 22 and 23, 2001, Burns & McDonnell monitored and documented Radiametrics, Inc. (Radiametrics) of Lorain, Ohio as they removed four exempt radioactive source rods located within billet caster molds at the Site. Radiametrics tested each of the four exempt radioactive source rods using a Victorine 290 with a pancake probe, in an effort to confirm source integrity and confirm the absence of leakage. Thereafter, Radiametrics placed the exempt radioactive source rods in a lead transport container

and wrapped the container in lead sheeting. Next, Radiametrics screened the level gauge housings and empty billet caster molds using the Victorine 290 probe, to confirm that there was no residual radioactivity within the billet caster molds and that radioactive counts were low enough to allow transport. The exempt radioactive source rods were then loaded and transported by Radiametrics to the Ronan Engineering facility in Florane, Kentucky, where Ronan Engineering will either re-use or dispose of the Cesium-137 pellets contained within the source rods. The Radiametrics removal report for the exempt radioactive source rods, and the exempt radioactive source rod leak test certificates are included in Appendix S1. The delivery receipts for the exempt radioactive source rods are included in Appendix N3.

During the same time period, Radiametrics also examined 10 radioactive wear indicator needles (needles) located at the Site. Radiametrics determined that Ronan Engineering did not manufacture the needles and therefore could not accept them for re-use or disposal. Radiametrics removed the radioactive tips from each of the 10 needles, wrapped them in lead sheeting, placed them in a box and labeled it "Caution Radioactive Material". Radiametrics secured the box in an empty billet caster mold at the western portion of the Site, pending arrangement for disposal. The remaining portions of the needles were tested using the Victorine 290 probe and exhibited no residual radioactivity. Based on the absence of residual radioactivity, the remaining portions of the needles were left on-Site near the billet caster mold on the west side of the Site.

Mr. Richard Stiffey of Radiametrics indicated that the needles may not be a Cesium-137 source but instead a Cobalt-60 source, and disposal at any waste facility would require the source to be manifested as a Cobalt-60 source. However, Radiametrics indicated the likely manufacturer of the needles may accept the needles if they are determined to be non-leaking sources. Radiametrics indicated this determination requires on-Site identification of leakage prior to transport of these sources.

Burns & McDonnell submitted a Freedom of Information Act (FOIA) Request with the Illinois Department of Nuclear Safety (IDNS) to review records that may indicate what type of source materials may have been licensed at the Site. Burns & McDonnell received a response from the IDNS in a letter dated January 16, 2002. The IDNS responded with its file for the subject Site, which included three separate memorandums prepared by the IDNS Division of Radioactive Materials. The three memorandums summarized Site visits by the IDNS performed on April 6, 2001; April 13, 2001; and October 22, 2001. The FOIA response did not identify what radioactive source materials may have been licensed at the Site. The IDNS FOIA request and responses are included in Appendix T.

Burns & McDonnell submitted to the USEPA the Radioactive and Fallen Asbestos Notice, which outlined proposed removal activities and leak testing of the needles. The needles were removed on Monday, May 20, 2002. Radiametrics removed the needles located within the empty billet caster mold, unwrapped them, and collected wipe samples for leak test analysis. Radiametrics submitted a memorandum dated May 31, 2002 regarding the leak test reports, which indicated that the leakage of

alpha and beta-gamma results were less than 0.0001 μCi (wet) on all ten needles. A copy of the report and the leak test certificates are included in Appendix S2.

Radiametrics then wrapped the needles in a lead block and wrapped the block in lead sheeting. The leaded package was then placed into a wooden box. Radiametrics secured the box and tested the box for radioactivity. Radiametrics detected no radioactive levels that would require additional action. Con-Way Central Express arrived on the Site to transport the box to the ThermoMeasureTech facility located in Round Rock, Texas.

Burns & McDonnell received a service report from Radiametrics on June 21, 2002 indicating that ThermoMeasureTech accepted ownership of the ten radioactive wear indicator needles. The needles were added to the ThermoMeasureTech inventory and are in line for either disposal or recycling. A copy of the Radiametrics service report and delivery receipt, and the Con-Way Central Express bill of lading are included as Appendix N3. The radioactive sources were removed and disposed of in accordance with the AOC, the Work Plan, and the Radioactive and Fallen Asbestos Notice, therefore Burns & McDonnell concludes that no further action is necessary with the radioactive sources.

5.6 PIPE INSULATION DEBRIS

On November 9, 2001, Burns & McDonnell collected three samples (AS-01 through AS-03) of suspect asbestos containing material located on the floor of an office area at the northeast portion of the building on the Site. The suspect asbestos containing material appeared to be a portion of pipe insulation that had fallen from a pipe located above the office area. The existing pipe extends from the northeast wall of the building to the current drum storage area. After sampling, the suspect asbestos containing material was placed into a bag, and sealed. Burns & McDonnell submitted sample AS-01 to Test America for bulk asbestos analysis by polarized light microscopy (PLM). Samples AS-02 and AS-03 were put on hold and were not to be analyzed unless AS-01 was found to contain less than one percent asbestos. If less than one percent asbestos was detected in AS-01, then AS-02 and AS-03 were also to be analyzed to confirm the negative result.

Test America identified sample AS-01 as 35% amosite asbestos. Laboratory analytical results are included in Appendix J. Based on the percentage of asbestos being greater than 1%, samples AS-02 and AS-03 were not analyzed, and the fallen pipe insulation was classified as asbestos containing material (ACM), requiring removal as ACM.

Burns & McDonnell submitted to the USEPA the Radioactive and Fallen Asbestos Notice, which outlined proposed removal activities of the fallen asbestos-containing pipe insulation. The identified ACM was removed from the Site on Tuesday, May 21, 2002. EHC Industries of Wauconda, Illinois removed the fallen insulation. First, EHC Industries wetted the insulation and an approximate three-foot radius of floor. EHC Industries then swept three separate pieces of fallen insulation into an

approximately 20-gallon bag, totaling a volume of approximately one half cubic foot. Once the fallen pipe insulation and the dust within the three-foot radius were in the bag, EHC washed the shovel and broom and collected the wash water into the same bag. The bag was sealed with duct tape and placed into the EHC vehicle for transport to Mallard Ridge Recycling and Disposal Facility (RDF) in Delavan, Wisconsin. A copy of the Waste Shipment Record is included as Appendix N4. The pipe insulation debris were removed and disposed in accordance with the AOC, the Work Plan, and the Radioactive and Fallen Asbestos Notice, therefore Burns & McDonnell concludes that no further action is necessary with the pipe insulation debris.

5.7 RESINOUS MATERIALS

On November 9, 2001, Burns & McDonnell collected three samples of surface soil in the vicinity of the former leaking PCB capacitor reported by the USEPA. The surface samples were collected and analyzed in an attempt to determine the extent of surface impact. The locations of these surface samples are presented in Figure 4. Samples (RM-01 through RM-03) were submitted to Test America for laboratory analysis of PCBs. Sample results are presented in Table 12 and laboratory analytical results are included in Appendix J.

Test America identified detectable concentrations of the PCB Aroclor 1254 in all three surface soil samples ranging from 0.919 to 4.52 mg/kg. Test America did not detect any other PCBs constituents.

Burns & McDonnell looked for the USEPA referenced resinous materials; however, no resinous materials were visually apparent in the surface soil at the time of sampling. The Work Plan also identified test pit excavations to be conducted near the identified location of the resinous material upon completion of surface soil collection. No apparent visible PCB capacitor liquids were observed in the area of the resinous materials. Based upon this observation and the laboratory analytical results, Burns & McDonnell believed no test pit excavations were required to investigate in the area of the resinous materials.

Burns & McDonnell developed the following ARAR to address the remaining detectable concentrations of PCBs identified from the three surface soil samples collected in the vicinity of the resinous materials. According to Title 40, Code of Federal Regulations (CFR) 761.61.a.4.i.B.1, the cleanup level for bulk remediation waste in low occupancy areas is less than 25 ppm. The resinous materials meet the definition of bulk remediation waste per 40 CFR 761.61.a.4.i. Because the Site is an unoccupied facility, it is also a low occupancy area; therefore, the cleanup level of 25 ppm has been achieved.
Based on this ARAR, the resinous material has been addressed in accordance with the AOC and Work Plan and no further action is necessary with the resinous materials.

5.8 SLAG PILES

On October 25, 2001, Burns & McDonnell collected one composite sample from each of two slag piles (WP-01 and WP-02) located at the exterior of the southeast corner of the building on the Site. Samples

WP-01 and WP-02 were submitted for laboratory analysis for total cadmium, chromium and lead and the waste disposal parameters R-code and EOX.

Test America identified detectable concentrations of the total metals lead, cadmium and chromium in all three slag piles and dust/debris piles soil samples. Test America identified detectable concentrations of total cadmium ranging from 2.9 mg/kg to 9.4 mg/kg, total chromium ranging from 423 mg/kg to 2,060 mg/kg, and total lead ranging from 34 mg/kg to 39 mg/kg. Test America's laboratory analytical results identify the slag pile soil sample from WP-02 with the highest detectable total cadmium, total chromium and total lead concentrations; therefore, Burns & McDonnell submitted this sample for laboratory analysis of waste disposal parameters rather than sample WP-01. Test America identified detectable concentrations of the toxicity characteristic leaching procedure (TCLP) metals barium and chromium at concentrations of 0.163 mg/L and 0.045 mg/L in sample WP-02. In addition, Test America identified total alkalinity at 640 mg/kg, and corrosivity pH screen of 9.8.

An additional composite sample (WP-03) was collected from the two dust/debris piles located at the southeast interior of the building. Test America detected concentrations of total lead at 2.9 mg/kg, total chromium at 423 mg/kg and total cadmium at 34 mg/kg. These concentrations were similar to the concentrations of metals identified in the surface soil investigation; therefore, Burns & McDonnell included the metals results of samples WP-01, WP-02, and WP-03 as part of the streamlined risk assessment. The laboratory results for total metals of the slag pile samples are presented in Table 9, and the laboratory results for waste characterization of the slag pile samples are presented in Table 10. The laboratory analytical data is included in Appendix J. A Burns & McDonnell data validation memorandum for the slag pile samples is included in Appendix K.

Given the results of the calculations documented in the streamlined risk assessment included as Appendix Q2, exposure to metals in the slag piles is unlikely to pose appreciable human health risk. Refer to section 5.9 of this report for a detailed discussion of the risk evaluation calculations.

The slag piles have been investigated in accordance with the AOC, the Work Plan, and the Surface Soil Work Plan Letter, and are unlikely to pose appreciable human health risk, therefore Burns & McDonnell concludes no further action is necessary with the slag piles.

5.9 SURFACE SOIL

On October 23, 2001, Burns & McDonnell conducted a dust survey at the Site prior to sampling the surface soils. The purpose of the dust survey was to evaluate if the concentrations of fugitive dusts within the working areas would require an increased level of PPE. Burns & McDonnell used a Data Ram dust meter to measure dust levels while walking throughout the Site. Using the USEPA reported chromium value of 1,310 mg/kg from the April 9, 2001 South Room sample, Burns & McDonnell calculated a Level C action level of 1.0 mg/m3 total dust. Based on the dust survey results and calculated

action level, level C PPE was used for samples collected from Sections 3A, 3B, 3C and 3D, located in the southeast portion of the building on the Site.

On October 23 and 24, 2001, Burns & McDonnell collected one composite surface soil sample each from sections 1A, 1B, 1C, 2D, 2H, 2I, 3A, 3B, 3C, 3D, 3E, 3F and 3G of the building on the Site. Building sections and sample locations are indicated on Figure 4. Composite samples were collected as follows:

- Each section was divided into four equal quadrants.
- One grab sample was collected from each of four quadrants of the section.
- The four grab samples were mixed to form a composite sample that represents each area.

Each of the 13 samples was analyzed for total lead, chromium and cadmium. One of the 13 samples was also analyzed for pH and total organic content (TOC). In addition, Burns & McDonnell collected four soil samples from three soil probes (GP-1, GP-2 and GP-3) advanced at the Site. Three of the four soil samples (GP1-001, GP2-001, and GP3-001) were collected within depths varying between 0 to 3 feet below ground surface (bgs) and analyzed for total cadmium, chromium and lead. One of the three samples (GP2-001) was also analyzed for pH and total organic carbon (TOC). These three samples are included as part of the surface soil investigation and were evaluated as part of the surface soil conditions at the Site. The fourth sample was collected from a depth of 6 to 7 feet bgs in soil probe GP-2. The analytical results for these 16 samples are included in Table 9 and laboratory analytical results are included in Appendix J.

Test America reported detectable concentrations of cadmium, chromium and lead in all 16 surface soil samples. Test America identified detectable concentrations of the following: total cadmium ranging from 5 milligrams/kilogram (mg/kg) to 51 mg/kg, total chromium ranging from 228 mg/kg to 1,180 mg/kg, and total lead ranging from 28 mg/kg to 3,240 mg/kg. Sample SS-1B had the highest total cadmium concentration, sample GP2-001 had the highest total chromium concentration, and sample GP3-001 had the highest total lead concentration. Test America reported pH concentrations at 8.5 and 12.7 for surface soil samples SS-1A and GP2-001, respectively, and TOC at 9.6% and 5.2%, respectively. Title 40 CFR 261.22 identifies a solid waste in an aqueous phase that has a pH greater than or equal to 12.5 may exhibit corrosivity, therefore, a solid waste may require to be listed as a hazardous waste. However, an average pH of the surface soil is 10.6, which does not exhibit corrosivity. Therefore, based on an average pH of the surface soil, the surface soil is not a hazardous waste due to corrosivity.

Burns & McDonnell performed a streamlined risk assessment as identified in the SI/RA Work Plan to evaluate the detected lead, cadmium and chromium identified in the surface soil at the Site. Preliminary findings of the streamlined risk assessment indicated that select areas of the Site may present a risk to future receptor populations due to the potential presence of hexavalent chromium. Therefore, Burns & McDonnell submitted the Surface Soil Work Plan Letter to USEPA for approval to collect additional soil samples to analyze for hexavalent chromium and to collect additional air monitoring data at the Site

during sample collection. The Surface Soil Work Plan Letter also indicated that a revised risk assessment would be generated based on this data.

On September 4, 2002, Burns & McDonnell collected an additional 16 surface soil samples as outlined in the Surface Soil Work Plan letter to be analyzed for chromium, hexavalent chromium, and percent moisture. Three of these surface soil samples were collected from hand auger borings HA-1, HA-2, and HA-3, which were advanced in the same locations as the soil probes GP-1, GP-2, and GP-3, respectively. The locations of the additional surface soil samples are indicated on Figure 4. The soil samples were submitted to STAT Analysis Corporation (STAT) on September 5, 2002. STAT reported all analytical results of hexavalent chromium as non-detect with the exception of the sample from JPMS-HA1-001, which was detected at a concentration of 1.2 mg/kg. The chromium, hexavalent chromium, and percent moisture results of the additional 16 surface soil samples are included in Table 13. STAT's laboratory analytical results are included in Appendix J. The Burns & McDonnell Data Validation Memorandum is included in Appendix K.

Upon the receipt of the additional laboratory analytical results, Burns & McDonnell completed the streamlined risk assessment of the soil at the Site to evaluate the potential human health risks posed by the detected metals in soil and dust from the Site. Burns & McDonnell evaluated potential human health risks for worker exposure to chemicals of potential concern (COPCs) in soil. The evaluated COPCs included those metals detected in soil samples collected from in and around the building. Based on Site conditions, Burns & McDonnell concluded that future populations could be exposed to metals through contact with surface and subsurface dust and soil. Burns & McDonnell evaluated commercial/industrial worker and temporary excavation worker receptor populations. Using standard USEPA exposure pathway equations for ingestion, dermal contact and inhalation of dust, Burns & McDonnell calculated excess lifetime cancer risk for each receptor scenario. Excess lifetime cancer risks for both receptor scenarios did not exceed the USEPA acceptable risk range of 1E-04 to 1E-06. Hazard indices for both receptor scenarios were at or below 1, indicating non-cancer health risks are unlikely.

Burns & McDonnell evaluated lead exposure using adult lead model recommended by the USEPA Technical Review Workgroup for Lead for a pregnant full-time worker scenario. A second set of blood lead concentrations were also calculated using a generic non-pregnant worker. Exposure to lead in surface soil resulted in a fetal blood lead concentration below the USEPA goal of 10 µg/dL for the pregnant worker scenario, and adult blood lead concentrations below the target of 20 µg/dL for the generic worker scenario. Burns & McDonnell did not evaluate the exposure for temporary excavation workers due to the short exposure duration of that population. However, Burns & McDonnell believes that a short-term worker would also be protected given the absence of significant risk to full-time workers.

Based on these calculations, Burns & McDonnell concludes that exposure to metals in soil is unlikely to pose appreciable human health risk. The Human Health Risk Evaluation for Soil report is submitted as Appendix Q2.

Surface soil has been investigated in accordance with the AOC, the Work Plan, and the Surface Soil Work Plan Letter, and is unlikely to pose appreciable human health risk, therefore Burns & McDonnell concludes that no further action is necessary for the surface soil.

5.10 SUBSURFACE SOIL

On October 24, 2001, Burns & McDonnell conducted three soil probes in the southeast portion of the building on the Site (GP-1, GP-2 and GP-3). The soil probes were advanced to a maximum depth of 16 feet bgs to investigate the vertical extent of the dust-like fill material and to evaluate if any alleged release of oil was located in the southeast area of the Site. Burns & McDonnell submitted one soil sample from each of the three soil probes for laboratory analysis for total lead, chromium, and cadmium. One of the three samples was also analyzed for pH and TOC. Burns & McDonnell also collected a second soil sample from GP-2 for additional analysis of total petroleum hydrocarbons (TPH) and PCBs. Three of the four soil samples (GP1-001, GP2-001, and GP3-001) were collected within the first three feet as surface soil samples and the results are discussed in the Surface Soil section. One of the four samples (GP2-004) was collected from a depth interval of 6 to 7 feet bgs and submitted for laboratory analysis of TPH and PCBs. Soil probe locations are shown on Figure 4.

Visual observations by Burns & McDonnell suggest that the dust-like fill material in the southeast area of the Site extends to a depth of approximately 3 feet bgs. A sand fill layer exhibiting apparent petroleum staining and odors was observed in GP-2 beginning at a depth of 5.5 feet bgs. Burns & McDonnell observed visible indications of petroleum saturation at depths between 6 and 7 feet bgs. Burns & McDonnell collected soil sample GP2-004 from a depth between 6 to 7 feet bgs. Further discussion of the laboratory analytical results of this soil sample is included in Section 5.11. A gray clay was identified at a depth of approximately 7 feet bgs and extended to at least the terminus of soil probe GP-2 at a depth of 16 feet bgs. Therefore, the presence of this clay layer may hinder any vertical transport of impacts. The soil probe logs are included in Appendix U.

Burns & McDonnell also evaluated the three soil samples collected within the first three feet of soil at the Site as part of the streamlined risk assessment included in Appendix Q2. Given the results of the calculations documented in Appendix Q2, exposure to metals in the first three feet of soil is unlikely to pose appreciable human health risk and no further evaluation of metals in this interval of soil is warranted.

5.11 INVESTIGATION OF THE ALLEGED OIL-BASED WASTE RELEASE FROM THE SITE

Burns & McDonnell reviewed historical Sanborn Fire Insurance Maps (Sanborn maps) of the Site dated 1919, 1951, 1975, 1987 1991, and 1993, in an effort to identify historic underground storage tanks (USTs) in the vicinity of the alleged oil-based waste release. The Sanborn map dated 1951 depicts two fuel oil USTs located north of the railroad spur near the southeast corner of the building on the Site. The remaining Sanborn maps depict no other USTs on the Site. Copies of the Sanborn Maps are included in Appendix V.

On October 25, 2001, Burns & McDonnell submitted to the City of Chicago an application for a permit to perform test excavations within 40 feet of the Chicago Sanitary and Ship Canal (Canal). On November 7, 2001, Burns & McDonnell received the City of Chicago Harbor Permit authorizing the proposed test excavations. On November 9, 2001 Burns & McDonnell submitted the fully executed Harbor Permit to the City of Chicago. A copy of the City of Chicago Harbor Permit is included in Appendix W.

On November 12 and 13, 2001 Burns & McDonnell monitored and documented four test excavations performed by SET. Mr. Cameron Walker of the MWRD was also present on-Site to observe the test excavations. The test excavations were advanced to a maximum depth of 10 feet bgs in the southwestern portion of the building on the Site in an effort to identify the source of the alleged oil-based waste release to the Canal. Burns & McDonnell collected five soil samples (TP1-001, TP2-001, TP2-002, TP3-001, and TP4-001) from the four test excavations. The test pit locations are presented on Figure 4. The five soil samples were submitted to Test America for laboratory analysis of PCBs and TPH. Burns & McDonnell observed what appeared to be petroleum free-product within test excavation TP-02 at a depth of approximately 2.5 to 3 feet bgs. In addition, Burns & McDonnell saw apparent petroleum stained soil in all four test excavations at depths ranging from approximately 4 to 8.5 feet bgs. Photographs of the test pit activities are included in Appendix O, and test pit logs are included in Appendix X.

Test America identified detectable concentrations of PCBs in four of the soil samples. Specifically, Test America identified detectable concentrations of Aroclor 1248 and Aroclor 1260 in three soil samples (TP1-001, TP2-002, and TP4-001) ranging from 2.85 to 7.66 mg/kg for Aroclor 1248 and ranging from 0.579 to 0.820 mg/kg for Aroclor 1260. In addition, Test America identified Aroclor 1242 in soil sample TP2-001 at a concentration of 0.382 mg/kg. No other PCBs were detected in the soil samples.

Test America identified detectable concentrations of TPH as Oil in all five soil samples at concentrations ranging from 394 mg/kg to 62,300 mg/kg. Test America identified no detectable concentrations of TPH as diesel or gasoline. Test pit sample results are included in Table 12 and laboratory analytical results are included in Appendix J. Based on the depth of the oil impacted soil and the laboratory analytical results, the source of the TPH and PCBs identified in the test pit samples appears to be a petroleum source rather than a transformer oil spill from the transformer switch gear room.

Burns & McDonnell did not identify relevant USEPA screening levels to address the remaining detectable concentrations of PCBs or TPH identified from the soil samples collected within the test pit excavations. Therefore, Burns & McDonnell developed the following ARAR to address the detectable concentrations of PCBs in the test excavation soil samples. According to 40 CFR 761.61.a.4.i.B.1, the cleanup level for bulk remediation waste in low occupancy areas is less than 25 ppm. The PCBs detected in the test excavation soil samples (<10 mg/kg) meet the requirements of bulk remediation waste per 40 CFR 761.61.a.4.i. Because the Site is an unoccupied facility, it is also a low occupancy area; therefore, the cleanup level of 25 ppm has been achieved. In addition, Section 5.1 of this Final Report indicated that SET collected a sample of the oil sorbent booms for laboratory analysis of PCBs. Laboratory analysis identified no detectable concentrations of PCBs.

As described in Section 5.10 of this report, Burns & McDonnell identified evidence of petroleum impacts in soil probe GP-2. Specifically, Test America identified detectable concentrations of TPH as Oil at a concentration of 33,200 mg/kg in soil sample GP2-004. Test America identified no detectable concentrations of PCBs in this sample. A summary of these laboratory results is included in Table 12, and the laboratory analytical data is included in Appendix J. In addition, Burns & McDonnell visually evaluated the transformer switch gear room for evidence of an oil release, and determined the following:

- The room is diked with an approximately 6-inch thick curb,
- The foundation floor appears intact with no visible cracks or stains, and
- The visible exterior foundation shows no evidence of a overflow in the secondary containment.

Based on the lack of detectable PCBs in soil sample GP2-004, the absence of evidence that oil flowed over the secondary containment, and the absence of surficial petroleum impacts, Burns & McDonnell concludes that the petroleum impacts observed at soil probe GP-2 and the four test pits did not originate from the alleged transformer switch gear room. Furthermore, it is not likely that the oil sheen on the water in the Canal originated from the transformer switch gear room, or from any other known PCB oil sources. As indicated in Section 5.1 of this Final Report, SET collected a sample of the oil sorbent booms for laboratory analysis of PCBs. Laboratory analysis identified no detectable concentrations of PCBs.

Considering these facts, including the lack of detectable PCBs in the oil sorbent booms, no PCB oil appears to be discharging to the Canal. Therefore the alleged oil-based waste has been addressed in accordance with the AOC and the Work Plan and no further action or investigation of the apparent oil-based release into the Canal is required pursuant to the AOC.

5.12 MAINTENANCE OF BOOMS ADJACENT TO THE SITE IN THE CANAL

On October 17, 2001, Burns & McDonnell removed the existing oil absorbent boom (approximately 60-feet long) and replaced it with an 8-inch diameter 60-foot boom. The replacement boom was secured to the canal wall using chains and clips. During this time, Burns & McDonnell removed 20 feet of this boom to attach to the longer boom near the transformer switch gear room. Burns & McDonnell did observe an oil sheen on the Canal water surface in proximity to the California Street bridge, however, Burns & McDonnell was unable to identify the source of the observed oil sheen.

The booms were monitored from the California Street bridge and replaced as follows:

- On February 14, 2002, Burns & McDonnell returned to the Site and noticed that the 140-foot boom placed along the former transformer switch gear room was not intact and no longer in its installed position, and appeared visibly saturated with oil. The boom was replaced on February 22, 2002 with a 180-foot boom, with an additional 40 feet placed in the canal toward the east of the former transformer switch gear room. The 40-foot boom placed west of the transformer switch gear room appeared to be in a condition to absorb additional oil, and therefore was left in place. Burns & McDonnell did not observe an apparent sheen on the water of the Canal near the booms.
- On June 13, 2002, Burns & McDonnell returned to the Site and observed that the boom placed west of the transformer switch gear room appeared to be in place with no apparent damage or visible seepage through the boom, but appeared in a condition near saturation. Burns & McDonnell returned to the Site on June 18, 2002 to remove the two booms from the Canal. One new approximately 200-foot boom was placed along the transformer switch gear room and one new approximately 60-foot boom was placed west of the transformer switch gear room.
- On August 15, 2002, Burns & McDonnell returned to the Site and observed that the 200-foot boom placed west of the transformer switch gear room appeared to be disconnected from the sheet pile wall along the Canal. Burns & McDonnell returned to the Site on August 20, 2002 to remove the existing 200-foot boom. Burns & McDonnell removed approximately 100-feet of this boom from the Canal. A portion of the remaining 100-foot boom was visible below the surface water of the Canal; however, Burns & McDonnell was unable to safely remove this portion because it was intact below the water surface and appeared to be attached to a submarine structure. Therefore, this portion remained in the Canal. Burns & McDonnell placed a new 200-foot boom on the surface water at the location of the former boom. The 60-foot boom previously placed west of the transformer switch gear room appeared to be intact with no apparent damage or visible seepage. The boom appeared to be in a functioning condition to absorb additional oil; therefore it was left in place.
- On November 12, 2002, Burns & McDonnell returned to the Site and observed that the 200-foot boom placed along the former transformer switch gear room appeared to be intact but submerged below the surface water of the Canal. The 60-foot boom placed west of the

transformer switch gear room appeared to be intact with no apparent damage or visible seepage through the boom, but not in a condition to absorb any additional oil. Therefore, Burns & McDonnell returned to the Site on November 14, 2002 to replace both the 200-foot and 60-foot booms.

The booms remain intact at the Site since installation on November 14, 2002. Booms removed from the Canal were placed into visqueen-drum liner bags and stored in 55-gallon drums at the southwest area of the Site. During Drum Removal activity, the booms were sampled for PCBs and were non-detect. Section 5.1 of this Final Report describes boom sampling and disposal activities. Photographs of the booms during boom observation and boom replacement activities are included in Appendix O.

Burns & McDonnell looked for evidence of oil seepage from the area along the Canal wall near the transformer switch gear room at the Site. Burns & McDonnell identified select areas of oil accumulation along the wall. However, given the absence of PCBs in the oil on the surface water of the Canal and the absence of indication that the oil is from a PCB-containing transformer, Burns & McDonnell concludes that no further action is required pursuant to the AOC.

5.13 MUNITIONS

On April 5, 2001, the City of Chicago Department of Environment (CDOE) observed stored artillery shells on the Site. The CDOE requested assistance from the U.S. Army and the USEPA to address the artillery shells.

During a May 11, 2001 telephone interview, arrangements were made for the disposal of munitions by M.S. Kaplan through ATF. Mr. Jim Allison, Supervisory Special Agent for the Explosives Enforcement Group of the U.S. Army, indicated that the artillery shells noted by CDOE were received and have been "destroyed" by the U.S. Army "EOD Unit" from Fort McCoy, Wisconsin, approximately one week after receipt of the artillery shells. Based on the information from this telephone interview, no further action is necessary regarding the munitions.

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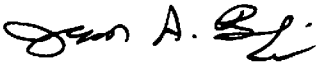
6.0 CERTIFIED STATEMENT

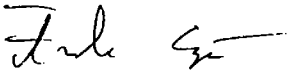
Based on the actions taken and information gathered, as described in this report, Burns & McDonnell believes that M.S. Kaplan has performed all of the work required by the AOC and that no further action is required pursuant to the AOC. Therefore, Burns & McDonnell requests on behalf of M.S. Kaplan, that USEPA issue a Notice of Completion pursuant to Section XVII of the AOC.

Under penalty of law, we certify that, to the best of our knowledge, after appropriate inquiries of all relevant persons involved in the preparation of this report, the information submitted is true, accurate, and complete.

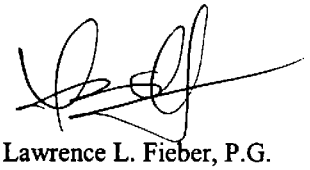
The following environmental professionals were responsible for this report:



Jason A. Blazier
Geologist
Report Preparer



Frank Capic
Staff Civil Engineer
Project Coordinator



Lawrence L. Fieber, P.G.
Senior Consultant
Project Manager

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7.0 REFERENCES

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Tables

T[illegible]
Drum Inventory Sort[illegible]y Visual Description

Drum #	Size	Type	OH/CH	Visual Description	Label	Drum Condition	pH	Ox	Color	% Solids	Volume (gal.)	Volume (lbs.)
31	20	DF	CH	**Liquid**	Muriatic Acid	Good	0-1	negative	Clear yellow	0 (p)	55	
32	20	DF	CH	**Acid**		Good	0-1	positive	Clear brown	0 (p)	20	
33	20	DF	CH	**Acid**		Good	0-1	positive	Clear brown	0 (p)	20	
34	20	DF	CH	**Acid**		Good	0-1	positive	Clear brown	0 (p)	20	
35	20	DF	CH	**Acid**		Good	0-1	negative	Clear yellow	0	15	
36	5	DF	CH	**Acid**		OK	0-1	negative	Red	0	20	
127	55	DF	CH	**Acid**		OP (85)	1	negative	Clear liquid	0	5	
131	20	DF	CH	**Acid**	Nalco 8940 hydrochloric acid cleaner	OK-dirty	1	negative		0	5	
134	55	DF	CH	**Liquid**	CC-33L by Mitco	OP (85 poly)	2	negative	Light green/clear liquid	0	5	
195	175	DF	Tote	**Liquid**			2	--	Clear	0	25	
6	55	DM	CH	**Orange glycol**		No bungs, needs OP	9	--	Orange glycol	0	5	
12	55	DM	CH	**Orange glycol**	CC-1 Mold Lubricant	OP	9	--	Orange liquid	0	35	
13	55	DM	CH	**Liquid**		Good	9	--	Orange	0	30	
17	55	DM	OH	**Liquid**	Decon Water	Good	6	--	Clear	0	40	
18	55	DM	CH	**Orange glycol**	CC-1 Mold	OP	9	--	Orange liquid	0	40	
28	55	DM	CH	**Liquid**		OK	14	--	Brown greenish	0	55	
29	55	DM	CH	**De Icer**	Ethylene glycol	OP	6	--	Light yellow/clear	0	55	
30	55	DM	OH	**Liquid**		OP	--	--	Gray viscous lubricant	0	55	
38	55	DM	CH	**Liquid**	De Icer, ethylene glycol	OP	--	--	Clear	0	20	
39	95	DF	OH	**Liquid**		Good 55 inside	12.5	--	Brown	0	55	
44	55	DM	CH/OH	**Soapy liquid (floor soap)**		OP	10	negative	Brown	0	40	
55	55	DM	CH	**Liquid**		OP	9	--	Fluorescentg reen liquid	0	12	
62	55	DM	CH	**Mineral spirits**		Needs 3/4 bung	--	--	Clear	0	25	

T 1
Drum Inventory Sort y Visual Description

Drum #	Size	Type	OH/CH	Visual Description	Label	Drum Condition	pH	Ox	Color	% Solids	Volume (gal.)	Volume (lbs.)
64	30	DF	CH	**Liquid detergent**		OK	7	--	Clear	0		20
66	55	DM	CH	**Liquid**		OP	9	--	Red orange	0	20	
69	55	DM	CH	**Liquid (virgin product)**		OK	--	--	Fluorescentg reen liquid	0	15	
75	55	DF	CH	**Liquid**		OK	1	negative	Clear	0	20	
83	55	DM	CH	**Antifreeze**		Needs 2" and 3/4" bung	--	--	green liquid	0	20	
89	300	CM (tote)	CH	**Liquid**		OK	9	--	Red orange	0	25	
92	55	DF	CH	**Liquid**	Potassium Hydroxide	OK	13	--	Clear	0	35	
93	55	DM	CH	**Liquid (Hydraulic Fluid)**		OP or Pour	--	--	Red	0	35	
94	55	DM	CH	**Liquid**		OP	9	--	Red orange	0	55	
95	55	DM	CH	**Liquid**		OP	9	--	Red orange	0	5	
102	30	DF	CH	**Liquid**	Air O Fresh Odor control	Needs 3/4 bung	7	--	Clear liquid	0	20	
104	55	DM	CH	**Liquid**	Nalco 7308 (Ethoxylated nonylphenol, polyglycol, water)	OP	5	negative	Clear, med viscosity	0	150	
105	55	DM	CH	**Liquid**	Nalco 7308	OP	5	negative	Clear, med viscosity	0	10	
106	55	DF	CH	**Liquid**	Nalco 7309	OP	5	negative	Clear, med viscosity	0	25	
107	55	DM	CH	**Water with rust**		OP (bottom bulged)	7	negative	Clear/rusty	0	25	
130	30	DF	CH	**Liquid**		OK	13	negative	Amber	0	2	
132	30	DF	CH	**Liquid**	Nalco 8900 Alkaline cleaner	OK-dirty	13	negative	Clear thick liquid	5	55	
133	5	DF	OH	**Liquid**		OP	13	negative	Red	0	1	
148	55	DM	CH	**Liquid**	Nalco 7383	OP (85)	12.5	negative	Clear	0	15	
154	55	DM	CH	**Liquid**	Nalco 7308	OP (85)	--	--	Clear viscous	0	55	
181	55	DM	CH	**Water & Sludge**		OP (85)	7	negative	Reddish brown	10	55	
191	55	DM	CH	**Liquid**		OP (85)	9	negative	reddish orange	0	40	

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Drum Inventory Sort. y Visual Description

Drum #	Size	Type	OH/CH	Visual Description	Label	Drum Condition	pH	Ox	Color	% Solids	Volume (gal.)	Volume (lbs.)
196	175	DF	Tote	**Liquid**	Sodium hydroxide solution		14	negative	Amber	0	20	
2	30	DM	CH needs OP	**Oil**		No bungs	--	--	Amber	0	5	
5	55	DM	CH	**Oil**		Good	--	--	Amber	0	35	
7	55	DM	CH	**Oil**		OP	--	--	Light yellow	0	55	
8	55	DM	CH	**Oil**		OP	--	--	Light yellow	0	50	
9	55	DM	CH	**Oil**		OP	--	--	Light yellow	0	55	
10	55	DM	CH	**Oil**		OP	--	--	Light yellow	0	50	
11	55	DM	CH	**Oil**	DIALA AX OIL SHELL	Needs 3/4 bung	--	--	Light yellow	0	55	
14	55	DM	CH	**Oil**		Needs 3/4 bung	--	--	Brown	0	55	
15	55	DM	CH	**Oil**		Needs 3/4 bung	--	--	Yellow	0	50	
16	55	DM	CH	**Oil**	CC-1 Mold Release	OP	7	--	Brown liquid	0	50	
20	55	DM	CH	**Oil**		Good	--	--	Light yellow	0	25	
21	55	DM	CH	**Oil**		Good	9	--	Light yellow	0	25	
22	55	DM	CH	**Oil/water**			6	--	Light yellow	0	20	
25	55	DM	CH	**Oil (Virgin)**	Copper Mold Cleaner by PICO (111 trichloroethane)	Good	--	--	Brown Oil	0	55	
26	55	DM	CH	**Oil (Virgin)**		95 OP	--	--	Light yellow	0	50	
27	55	DM	CH	**Oil**	trichlorophenoxy acetic acid, bromo	86 OP	--	--	Dark brown clean	0	50	
40	55	DM	CH	**Oil**		OP	--	--	Light yellow	0	25	
42	55	DM	CH	**Oil**	Rapeseed oil by PICO	OP	--	--	Straw yellow	0	10	
43	55	DM	CH	**Oil (Virgin)**	Copper Mold Cleaner by PICO (111 trichloroethane)	OP	--	--	Brown	0	55	

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Drum Inventory Sort y Visual Description

Drum #	Size	Type	OH/CH	Visual Description	Label	Drum Condition	pH	Ox	Color	% Solids	Volume (gal.)	Volume (lbs.)
48	55	DM	CH	**Oily liquid**		OP	--	--	Yellowish/ clear	0	7	
49	55	DM	CH	**Oily liquid**		OP	--	--	Yellowish	0	40	
51	20	DM	OH	**Oil (thick)**	90 W gear oil	OP-55	--	--	Brown viscous	0	5	
52	55	DM	CH	**Oil**	AW 200-46 by PICO	OP-5	--	--	Brown	0	5	
53	55	DM	CH	**Oil (light)**	Hydraulic Fluid (red)	OP	--	--	Yellowish	0	35	
54	55	DM	CH	**Oil (light)**		Needs 3/4 bung	--	--	brown	0	10	
56	55	DM	CH	**Oil (used)**		OP	--	--	Black	0	25	
58	55	DM	OH	**Oil filters and debris**		OP	--	--	Varies	100		200
59	55	DM	CH	**Oily liquid**		OP	8	--	Red	0	20	
60	55	DM	CH	**Oil**	SAE 30 W Oil	Needs small bung	--	--	Brown clear	0	18	
61	55	DM	CH	**Oil (viscous)**	90 W gear oil	OP	--	--	Brown clear	0	45	
63	55	DM	CH	**Oil**	30 W oil	OK	--	--	Brown	0	3	
65	55	DM	CH	**Oil**	Caster Mold Lubricant	OP	--	--	Clear brown	0	20	
67	55	DM	CH	**Oil**	30 W oil	OP	--	--	light brown	0	20	
68	55	DM	CH	**Oil**		Needs 3/4 bung	--	--	Light yellow	0	15	
70	55	DM	CH	**Oil (used)**	Caster Mold Lubricant	Needs 2" and 3/4" bung	--	--	Brown/black	0	25	
71	55	DM	CH	**Oil (Virgin)**	Airline lube oil	OK	--	--	Straw colored	0	55	
72	55	DM	CH	**Oil**		OP	--	--	Straw colored	0	55	
73	55	DM	CH	**Oil (used)**		OP (dirty)	--	--	Brown to amber	0	55	
74	55	DM	CH	**Oil (used)**		OP	--	--	Brown to amber	0	55	
76	55	DM	CH	**Oil**		OK	--	--	Clear amber	0	25	
77	55	DM	CH	**Oil**	15W40	Needs 3/4 bung	--	--	Clear amber	0	55	
78	55	DM	CH	**Oil**		Needs 2" and 3/4" bung	--	--	Amber	0	20	
79	55	DM	CH	**Oil**		OK	--	--	Amber	0	15	

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Drum Inventory Sort[illegible]y Visual Description

Drum #	Size	Type	OH/CH	Visual Description	Label	Drum Condition	pH	Ox	Color	% Solids	Volume (gal.)	Volume (lbs.)
80	30	DM	CH	**Oil**		OP	--	--	Amber	0	20	
81	55	DM	CH	**Oil (Virgin)**		OK	--	--	Amber	0	55	
82	55	DM	CH	**Oil (Compressor)**		OK	--	--	Amber	0	5	
91	55	DM	CH	**Oil**		OP	--	--	Amber	0	40	
96	55	DM	CH	**Oil**		OP	--	--	Amber	0	50	
97	55	DM	CH	**Oil**		OP	--	--	Clear amber	0	55	
98	55	DM	CH	**Oil**	Caster Mold Lubricant	OP	--	--	Brown clear	0	35	
99	55	DM	CH	**Oil**		OP	--	--	Amber	0	55	
100	55	DM	CH	**Oil**		OP	--	--	Amber	0	25	
101	55	DM	CH	**Oil**		OP	--	--	Amber	0	8	
111	30	DM	OH	**Oil**	PCBs	OP or Pour to #57	--	--	Clear amber	0	10	
112	55	DM	CH	**Oil**		OK	--	--	Clear amber	0	15	
116	55	DM	OH	**Oil (low viscosity)**		OK	--	--	Amber	0	40	
117	55	DM	OH	**Oil (low viscosity)**		OK	--	--	Amber	0	45	
118	55	DM	OH	**Oil**		OK	--	--	Clear/whitish	0	40	
119	55	DM	OH	**Oil**		OK	--	--	Clear straw	0	10	
123	55	DM	CH	**Oil (low viscosity)**		OP (85)	--	--	Amber	0	55	
124	55	DM	CH	**Oil**	Nalco SB06 Soybean oil	OP (85)	--	--	Light straw colored	0	50	
126	55	DM	CH	**Oil**	AW 200-46 by PICO	OP (85)	5	negative	Amber	0	50	
128	55	DM	CH	**Oil**	SAE 15W40 by PICO	OP (85)	--	--	Amber	0	55	
137	55	DM	CH	**Oil (medium viscosity)**	Caster Mold Lubricant	OP (85)	--	--	Clear white	0	10	
138	55	DM	CH	**Oil**	Caster Mold Lubricant	OP (85)	--	--	Dark amber	0	55	
139	55	DM	CH	**Oil (used)**	ND 100 30 W by PICO	OP (85)	--	--	Black	0	55	
140	55	DM	CH	**Oil (used)**	Premium 680 Special by PICO	OP (85)	--	--	Black	0	75	
141	55	DM	CH	**Oil**	CC-1 Castor Lube	OP (85)	--	--	Dark amber	0	50	
142	55	DM	CH	**Oil**	CC-1 Castor Lube	OP (85)	--	--	Dark amber	0	15	
143	55	DM	CH	**Oil/water emulsion**		OP (85)	--	--	tan/brown	0	40	

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Drum Inventory Sort by Visual Description

Drum #	Size	Type	OH/CH	Visual Description	Label	Drum Condition	pH	Ox	Color	% Solids	Volume (gal.)	Volume (lbs.)
144	55	DM	CH	**Oil**		OP (85)	--	--	Reddish brown	0	55	
147	55	DM	CH	**Oil**		OP (85) dirty	--	--	Straw	0		350
149	55	DM	CH	**Oil (75%)/Water(25%)**		OP (85)	--	--	Amber	0	25	
150	55	DM	CH	**Oil (used)**		OP (85)	--	--	Black	0	20	
155	55	DM	CH	**Oil (med. Viscosity)**		OP (85)	--	--	Dark amber	0	10	
156	55	DM	CH	**Oil**		OP (85)	--	--	Dark amber	0	15	
157	55	DM	CH	**Oil water emulsion**	15W-40	OP (85)	--	--	Brown	0	55	
158	55	DM	CH	**Oil water mixture (50/50)**		OP (85)	--	--	Light amber	0	15	
159	55	DM	CH	**Oil**	AW 200-46 by PICO	OP (85)	--	--	Straw	0	20	
160	55	DM	CH	**Oil**	PAW-46 Hydraulic oil	OP (85)	--	--	Straw	0	15	
163	55	DM	CH	**Oil**		OP (85)	--	--	Straw	0		550
164	55	DM	CH	**Oil**		OP (85)	--	--	Amber	50		550
167	55	DM	CH	**Oil (hydraulic?)**		OK	--	--	Straw	0		400
169	55	DM	CH	**Oil**	CC-1 Castor Lube	OP (85)	--	--	Straw	0	50	
171	55	DM	CH	**Oil**	CC-1 Castor Lube	OK	--	--	Straw	0	5	
172	55	DM	CH	**Oil**		OP (85)	--	--	Amber	0	2	
173	55	DM	CH	**Oil**		OP (85)	--	--	Amber	0	5	
174	55	DM	CH	**Oil**		OP (85)	--	--	Amber	0	20	
175	55	DM	CH	**Oil (used)**	Airline oil	OP (85)	--	--		0	55	
176	55	DM	CH	**Oil (soybean)**	Nalco SB06	OP (85)	--	--	Straw	0	55	
177	55	DF	CH	**Oil**	Nalco Oil & Biocide	OP (85)	7	negative	Brown	0		
178	55	DM	CH	**Oil sludge and water**		OP (85)	--	--	Brown sludgy liquid	0	20	
179	55	DM	OH	**Oil**		Good	--	--	Tan	0	5	
184	85	DM	OH	**Oil (Used hydraulic)**		Good	--	--	Amber	0	45	
185	55	DM	CH	**Oil sludge and water**		OP (85)	--	--	Amber/clear	10		30
186	55	DM	CH	**Oil**		OP (85)	--	--	Amber	0	45	

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Drum Inventory Sort y Visual Description

Drum #	Size	Type	OH/CH	Visual Description	Label	Drum Condition	pH	Ox	Color	% Solids	Volume (gal.)	Volume (lbs.)
187	55	DF	CH	Oil with water/NaOH		OP (85)	9	negative	Amber	0	1	
188	55	DM	CH	Oil		OP (85)	--	--	Straw	0	10	
189	55	DM	OH	Oil		OP (85)	--	--	Straw	0	25	
190	55	DM	CH	Oil sludge and water		OP (85)	--	--	Clear water, black sludge	0	50	
192	55	DM	CH	Oil		OP (85)	--	--	Amber	0	2	
193	55	DM	CH	Oil		OP (85)	--	--	Amber	0	40	
194	55	DM	CH	Oil (med. Viscosity)		OP (55)	--	--	Amber	0	55	
1	55	DM	OH needs OP	Absorbent pads,/debris		Top cut out	--	--	varies	100		
3	55	DM	OH	Solid (Silica sand, plastic bucket)		Good	--	--	White/rusty	100		40
4	55	DM	OH	Absorbent pads		Good	--	--	White with oil	100		10
19	55	DM	OH	1x1 lead acid battery		Good	7	--	Absorbent pads	95		35
23	55	DM	OH	Baghouse dust		OP	--	--	Brown Solid	100		700
24	55	DM	OH	Metallic chunks		OP	--	--	Silver metal chunks	100		+ 800
37	50	DF carboy	OH	Solid (Calcium Carbonate)	Potassium Carbonate	No ring	--	--	Gray chunks charcoal	100		100
41	30	DM	OH	Metal granules		OP	--	--	Silver	100		500
45	55	DM	OH	Baghouse Dust		OP	--	--	Reddish Brown	100		60
46	55	DM	OH	Baghouse Dust		OP	--	--	Reddish Brown	100		300
47	55	DM	OH	Baghouse Dust and debris		OP	--	--	Reddish Brown	100		200
50	30	DM	OH	Solid (Granular material)	Vesuvius Neomelt	Needs ring or OP	--	--	White	100		30
57	55	DM	OH	PCB capacitors (2) (9x9x18 and 9x14x20)	PCB	Good	--	--		50	10	
84	20	Gal	OH	Grease		OP	--	--	Dark			
85	20	Gal	OH	Grease		OP	--	--	White			
86	20	Gal	OH	Grease		OP	--	--	Dark			

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Drum Inventory Sort[illegible]y Visual Description

Drum #	Size	Type	OH/CH	Visual Description	Label	Drum Condition	pH	Ox	Color	% Solids	Volume (gal.)	Volume (lbs.)
87	20	Gal	OH	Grease		OP	--	--	Dark			
88	55	DM	OH	Metal slag		OP	--	--	Reddish Brown	100		+600
90	55	DF	OH	Rags and oil dry		OK	--	--	Varies	100		300
103	20	DM	OH	Grease		OP	--	--	Brown paste	100	5	
108	30	DF	OH	Solid	Lavasil Silica Sand	OP-55	--	--	White granular	100		350
109	30	DF	OH	Solid	Lavasil Silica Sand	OP-55	--	--	White granular	100		350
110	30	DF	OH	Solid	Lavasil Silica Sand	OP-55	--	--	White granular	100		350
113	55	DM	OH	Baghouse dust		OP (110)	--	--	Dark brown solid	100		350
114	55	DM	OH	Solid (Silica sand)		OP (85)	--	--	Gray granular solid	100		700
115	55	DM	OH	Baghouse dust		OP (85)	--	--	Brown solid	100		350
120	55	DM	OH	Solid (Clothing & debris)		OP (85)	--	--	Varies	100		200
121	20	DM	OH	Solid (slag & debris)		OP (55)	--	--	Silver	100		40
122	55	DM	OH	Solid (Silica sand)		OP (110)	--	--	Yellow-brown granular	100		200
125	55	DM	OH	Grease (Molybdenum)		OP (85)	--	--	Gray/black	95		150
129	60	DF	OH	Solid (Calcium chloride)	Ice Melt	OP (110)	--	--		100		200
135	55	DM	OH	Solid		OP (85)	--	--	Gray granular	100		650
136	55	DM	OH	Solid		OP (85)	--	--	Gray	100		650
145	30	DF	OH	Solid	Lavasil 400	OK	--	--	White powder	100	35	
146	30	DF	OH	Solid	Lavasil 400	OK	--	--	White powder	100		350
151	30	DM	OH	Solid	Lava Cement	OP (55)	--	--	Yellow chips	100	55	
152	30	DM	OH	Solid	Lava Cement	OP (55)	--	--	Yellow chips	100		250
153	30	DM	OH	Solid	Lava Cement	OP (55)	--	--	Yellow chips	100		250
161	30	DM	OH	Solid (Steel parts)		OP (55)	--	--	Rusted Steel	100	55	

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Drum Inventory Sort by Visual Description

Drum #	Size	Type	OH/CH	Visual Description	Label	Drum Condition	pH	Ox	Color	% Solids	Volume (gal.)	Volume (lbs.)
162	30	DM	OH	**Solid (Steel parts)**		OP (55)	--	--	Rusted Steel	100	15	
165	55	DM	OH	**Solid (Gray pumice-like)**		OP (85)	--	--	Gray	100	20	
166	55	DM	OH	**Solid (Gray cement-like)**		OP (110)	--	--	Gray	100	15	
168	55	DM	OH	**Solid (Silica sand and dust with water)**		OP (85)	--	--	Black sand/clear water	80		200
170	55	DM	CH	**Grease (Thick paste)**	CC-1 Castor Lube	OP (85)	--	--	Light brown paste	100		400
180	55	DM	OH	**Solid (Rags, metal bucket, debris)**		Good	--	--	Varies	100	10	
182	20	DF	OH	**Solid**	Sodium silicofluoride, graphite powder, magnesium chromate	OP (55)	--	--	Gray granules, wood shavings	100		150
183	15	DM	OH	**Absorbent pads**		OP (55)	--	--	White pads/oil sludge	100	30	
Key												
	Acids											
	Liquids											
	Suspect Non-PCB impacted oil											
	Suspect PCB impacted oil											
	Solids											

Table 2
Drums Included in SET Sample Groups A through I

SET Sample Group	Drums in Group
A	5, 7, 8, 9, 10, 11, 14, 15, 16, 20
B	21, 22, 26, 40, 42, 48, 49, 52, 53, 54
C	60, 65, 68, 71, 72, 76, 77, 78, 79, 80
D	67, 81, 82, 91, 101, 111, 149, 155, 155, 159
E	2, 63, 96, 97, 98, 99, 100, 137, 142, 143
F	112, 116, 117, 118, 119, 124, 147, 157, 158, 181
G	126, 128, 138, 141, 144, 178, 179, 185, 186, 187
H	160, 163, 164, 167, 169, 171, 176, 188, 189, 194
I	177, 123, 172, 173, 174, 190, 192, 193, Lab Pack #1, Lab Pack #2

Table 3
Laboratory Analytical Results
Drum Samples for PCBs - SET Groups and Boom

Compound/Analyte	Sample Group and Date Sampled/Concentration									
	A Composite		B Composite		C Composite		D Composite		E Composite	
PCB (mg/kg)										
Aroclor-1016	<0.89	U	<0.9	U	<0.95	U	<0.96	U	< 0.92	U
Aroclor-1221	<0.89	U	<0.9	U	<0.95	U	<0.96	U	< 0.92	U
Aroclor-1232	<0.89	U	<0.9	U	<0.95	U	<0.96	U	< 0.92	U
Aroclor-1242	<0.89	U	<0.9	U	<0.95	U	<0.96	U	< 0.92	U
Aroclor-1248	<0.89	U	<0.9	U	<0.95	U	<0.96	U	< 0.92	U
Aroclor-1254	<0.89	U	<0.9	U	<0.95	U	<0.96	U	< 0.92	U
Aroclor-1260	<0.89	U	<0.9	U	<0.95	U	<0.96	U	< 0.92	U

Compound/Analyte	Sample Location and Date Sampled/Concentration									
	F Composite		G Composite		H Composite		I Composite		Boom	
PCB (mg/kg)										
Aroclor-1016	<0.93	U	<0.94	U	<0.95	U	<0.87	U	<0.08	U
Aroclor-1221	<0.93	U	<0.94	U	<0.95	U	<0.87	U	<0.08	U
Aroclor-1232	<0.93	U	<0.94	U	<0.95	U	<0.87	U	<0.08	U
Aroclor-1242	<0.93	U	<0.94	U	<0.95	U	<0.87	U	<0.08	U
Aroclor-1248	<0.93	U	<0.94	U	<0.95	U	<0.87	U	<0.08	U
Aroclor-1254	<0.93	U	<0.94	U	<0.95	U	1,400		<0.16	U
Aroclor-1260	<0.93	U	<0.94	U	<0.95	U	<0.87	U	<0.16	U

Notes:
(1) U - Indicates compound/analyte was analyzed for but not detected, the associated value is the sample reporting limit.

Table 4
Laboratory Analytical Results
Drum Samples for PCBs - Additional Sampling of SET Group I and Non-Hazardous Liquid Composite

Compound/Analyte	Sample Location and Date Sampled/Concentration				
	192	173	193	172	174
	PCB (mg/kg)				
ɔclor-1016	<0.97 U	<0.95 U	<0.97 U	<0.88 U	< 0.94 U
ɔclor-1221	<0.97 U	<0.95 U	<0.97 U	<0.88 U	< 0.94 U
oclor-1232	<0.97 U	<0.95 U	<0.97 U	<0.88 U	< 0.94 U
oclor-1242	<0.97 U	<0.95 U	<0.97 U	<0.88 U	< 0.94 U
oclor-1248	<0.97 U	<0.95 U	<0.97 U	<0.88 U	< 0.94 U
oclor-1254	<0.97 U	<0.95 U	<0.97 U	<0.88 U	< 0.94 U
oclor-1260	<0.97 U	<0.95 U	<0.97 U	<0.88 U	< 0.94 U

Compound/Analyte	Sample Location and Date Sampled/Concentration				
	190 and 177 Composite	123	Lab Pk #1 (Oil)	Lab Pk #2 (Oil)	Non-Haz Liquid Composite
	PCB (mg/kg)				
·oclor-1016	<0.94 U	<1 U	<0.95 U	<0.9 U	<0.96 U
·oclor-1221	<0.94 U	<1 U	<0.95 U	<0.9 U	<0.96 U
·c 32	<0.94 U	<1 U	<0.95 U	<0.9 U	<0.96 U
rc 42	<0.94 U	<1 U	<0.95 U	<0.9 U	<0.96 U
roclor-1248	<0.94 U	<1 U	<0.95 U	<0.9 U	<0.96 U
roclor-1254	<0.94 U	<1 U	2,700	<0.9 U	<0.96 U
roclor-1260	<0.94 U	<1 U	<0.95 U	<0.9 U	<0.96 U

ɔtes:
;) U - Indicates compound/analyte was analyzed for but not detected, the associated value is the sample reporting limit.

Table 9
Laboratory Analytical Results
Metals, pH and Total Organic Content (TOC)

Compound/Analyte	Sample Location and Sample Interval/Concentration									
	JPMS-SS-1A 0 to 6 inches		JPMS-SS-1B 0 to 6 inches		JPMS-SS-1C 0 to 6 inches		JPMS-SS-2D 0 to 6 inches		JPMS-SS-2H 0 to 6 inches	
Metals (mg/kg)										
Cadmium	24	J	51	J	41	J	42	J	29	J
Chromium	228	J	420	J	504	J	601	J	526	J
Lead	965		1,630		567		349		275	
pH										
pH	8.5	*	NA		NA		NA		NA	
Total Organic Content (TOC) (%)										
TOC	9.6		NA		NA		NA		NA	

Notes:
(1) U - Indicates compound/analyte was analyzed for but not detected, the associated value is the sample reporting limit.
(2) NA - Indicates sample not analyzed for this compound/analyte.
(3) J - Indicates estimated value
(4) * - Indicates sample analytical results outside of holding time for pH.

Table 9 (Continued)
Laboratory Analytical Results
Metals, pH and Total Organic Content (TOC)

Compound/Analyte	Sample Location and Sample Interval/Concentration									
	JPMS-SS-2I surface		JPMS-SS-3A surface		JPMS-SS-3B surface		JPMS-SS-3C surface		JPMS-SS-3D surface	
Metals (mg/kg)										
Cadmium	25	J	22	J	25	J	23	J	9.1	J
Chromium	465	J	407	J	674	J	558	J	213	J
Lead	269		163		121		78		67	
pH										
pH	NA		NA		NA		NA		NA	
Total Organic Content (TOC) (%)										
TOC	NA		NA		NA		NA		NA	

Notes:
(1) U - Indicates compound/analyte was analyzed for but not detected, the associated value is the sample reporting limit.
(2) NA - Indicates sample not analyzed for this compound/analyte.
(3) J - Indicates estimated value

Table 9 (Continued)
Laboratory Analytical Results
Metals, pH and Total Organic Content (TOC)

Compound/Analyte	Sample Location and Sample Interval/Concentration									
	JPMS-SS-3E surface		JPMS-SS-3F surface		JPMS-SS-3G surface		JPMS-GP1-001 0 to 1.75 feet		JPMS-GP2-001 2 to 3 feet	
Metals (mg/kg)										
Cadmium	26	J	29	J	29	J	5	J	10	J
Chromium	580	J	452	J	583	J	1,090	J	1,180	J
Lead	142		81		174		28		34	
pH										
pH	NA		NA		NA		NA		12.7	*
Total Organic Content (TOC) (%)										
TOC	NA		NA		NA		NA		5.2	

Notes:
(1) U - Indicates compound/analyte was analyzed for but not detected, the associated value is the sample reporting limit.
(2) NA - Indicates sample not analyzed for this compound/analyte.
(3) J - Indicates estimated value
(4) * - Indicates sample analytical results outside of holding time for pH.

Table 9 (Continued)
Laboratory Analytical Results
Metals, pH and Total Organic Content (TOC)

Compound/Analyte	Sample Location and Sample Interval/Concentration									
	JPMS-GP3-001 2 to 3 feet		JPMS-WP-01 Composite		JPMS-WP-02 Composite		JPMS-WP-03 Composite		JPMS-BH-001 Composite	
Metals (mg/kg)										
Cadmium	9.3	J	4.9	J	9.4	J	2.9	J	163	J
Chromium	768	J	1,560	J	2,060	J	423	J	448	J
Lead	3,240		39		41		34		3,870	
pH										
pH	NA		NA		NA		NA		NA	
Total Organic Content (TOC) (%)										
TOC	NA		NA		NA		NA		NA	

Notes:
(1) U - Indicates compound/analyte was analyzed for but not detected, the associated value is the sample reporting limit.
(2) NA - Indicates sample not analyzed for this compound/analyte.
(3) J - Indicates estimated value

Table 10
Laboratory Analytical Results
Waste Disposal Parameters

Compound/Analyte	Sample Location and Date Sampled/Concentration							
	JPMS-DDG-01 10/25/2001		JPMS-DDG-02 10/25/2001		JPMS-WP-02 10/25/2001		JPMS-BH-001 10/26/2001	
TCLP Acid Compounds (mg/L)								
TCLP-o-Cresol	<0.10	U	<0.10	U	<0.10	U	<0.10	U
TCLP-m&p Cresol	<0.10	U	<0.10	U	<0.10	U	<0.10	U
TCLP-Pentachlorophenol	<0.50	U	<0.50	U	<0.50	U	<0.50	U
TCLP-2,4,5-Trichlorophenol	<0.50	U	<0.50	U	<0.50	U	<0.50	U
TCLP-2,4,6-Trichlorophenol	<0.10	U	<0.10	U	<0.10	U	<0.10	U
TCLP Volatiles (mg/L)								
TCLP-Benzene	<0.10	U	<0.10	U	<0.10	U	<0.10	U
TCLP-2-Butanone	NA		NA		NA		<0.10	U
TCLP-Carbon Tetrachloride	<0.10	U	<0.10	U	<0.10	U	<0.10	U
TCLP-Chlorobenzene	<0.10	U	<0.10	U	<0.10	U	<0.10	U
TCLP-Chloroform	<0.10	U	<0.10	U	<0.10	U	<0.10	U
TCLP-1,2-Dichloroethane	<0.10	U	<0.10	U	<0.10	U	<0.10	U
TCLP-1,1-Dichloroethene	<0.10	U	<0.10	U	<0.10	U	<0.10	U
TCLP-Methyl Ethyl Ketone	<2.0	U	<2.0	U	<2.0	U	<2.0	U
TCLP-Tetrachloroethene	<0.10	U	<0.10	U	<0.10	U	<0.10	U
TCLP-Trichloroethene	0.32		0.26		<0.10	U	<0.10	U
TCLP-Vinyl Chloride	<0.20	U	<0.20	U	<0.20	U	<0.20	U
TCLP Semi-Volatiles (mg/L)								
TCLP-1,4-Dichlorobenzene	<0.10	U	<0.10	U	<0.10	U	<0.10	U
TCLP-Hexachloroethane	<0.10	U	<0.10	U	<0.10	U	<0.10	U
TCLP-Nitrobenzene	<0.10	U	<0.10	U	<0.10	U	<0.10	U
TCLP-Hexachlorobutadiene	<0.10	U	<0.10	U	<0.10	U	<0.10	U
TCLP-2,4-Dinitrotoluene	<0.10	U	<0.10	U	<0.10	U	<0.10	U
TCLP-Hexachlorobenzene	<0.10	U	<0.10	U	<0.10	U	<0.10	U
TCLP-Pyridine	<0.10	U	<0.10	U	<0.10	U	<0.10	U
TCLP Metals (mg/L)								
TCLP-Antimony, Trace ICP	NA		NA		NA		<0.020	U
TCLP-Arsenic, ICP	<0.20	U	<0.20	U	<0.20	U	<0.20	U
TCLP-Barium, ICP	0.091		0.036		0.163		0.669	U
TCLP-Beryllium, ICP	NA		NA		NA		<0.0050	U
TCLP-Cadmium, ICP	<0.010	U	<0.010	U	<0.010	U	<0.010	U
TCLP-Chromium,ICP	<0.040	U	<0.040	U	0.045		<0.040	U
TCLP-Lead, ICP	<0.20	U	<0.20	U	<0.100	U	<0.20	U
TCLP-Mercury, CVAA	<0.0002	U	0.00063		<0.0002	U	<0.0002	U
TCLP-Nickel, ICP	NA		NA		NA		<0.050	U
TCLP-Selenium, ICP	<0.20	U	<0.20	U	<0.20	U	<0.20	U
TCLP-Silver, ICP	<0.050	U	<0.050	U	<0.050	U	<0.050	U
TCLP-Thallium, ICP	NA		NA		NA		<0.20	U
TCLP-Zinc, ICP	NA		NA		NA		<0.020	U
Alcohol Compounds (mg/kg)								
n-Butyl Alcohol	<17		<10		NA		NA	
2-Ethyoxyethanol	<34		<20		NA		NA	
Isobutanol	<17		<10		NA		NA	
Methanol	<17		<10		NA		NA	
Reactive Sulfide	<10		<10		<10		<10	

Notes:
(1) U - Indicates compound/analyte was analyzed for but not detected, the associated value is the sample reporting limit.
(2) NA - Indicates sample not analyzed for this compound/analyte.
(3) J - Indicates estimated value

Table 10 (Continued)
Laboratory Analytical Results
Waste Disposal Parameters

Compound/Analyte	Sample Location and Date Sampled/Concentration			
	JPMS-DDG-01 10/25/2001	JPMS-DDG-02 10/25/2001	JPMS-WP-02 10/25/2001	JPMS-BH-001 10/26/2001
Physical Description	white powder	white powder	grayish sandy soil	brown powder
Flashpoint - Open Cup - Degrees Fahrenheit	>200	>200	>200	>200
Physical Char. - Odor	1,000	1,000	No Odor	0
Alkalinity,Total-10% solution	37,200	26,600	640	1,180
Acidity-10% solution	<85 U	<51 U	<50 U	<51 U
Water - Compatability	No Reaction	No Reaction	No Reaction	No Reaction
Corrosivity pH screen 10% soln	11.9	12.4	9.8	10.3
Cyanide, total - mg/kg	<0.42 U	<0.26 U	<0.25 U	7.3
EOX - mg/kg	<50 U	<50	<50 U	<50 U
Paint Filter Test	Pass	Pass	Pass	Pass
Phenols, colorimetric - mg/kg	<0.8 U	<0.5 U	<0.5 U	0.7
Solids, Total - %	59.1 %	97.7 %	NA	98.2 %
Organic Matter (Geotechnical)	4.8 %	39.7 %	1.9 %	4.4 %
F001-5 VOCs (mg/kg)				
Acetone	<3.40 U	<2.00 U	NA	NA
Benzene	<0.169 U	<0.100 U	NA	NA
Carbon disulfide	<3.4 U	<2.00 U	NA	NA
Carbon tetrachloride	<0.170 U	<0.100 U	NA	NA
Chlorobenzene	<0.169 U	<0.100 U	NA	NA
Cyclohexanone	<3.40 U	<2.00 U	NA	NA
1,2-Dichlorobenzene	<0.170 U	<0.100 U	NA	NA
Dichlorodifluoromethane	<1.70 U	<1.00 U	NA	NA
Ethyl acetate	<1.70 U	<1.00 U	NA	NA
Ethyl ether	<1.70 U	<1.00 U	NA	NA
Ethyl benzene	<0.169 U	<0.100 U	NA	NA
Methylene chloride	<0.500 U	0.123 U	NA	NA
Methyl ethyl ketone	<3.40 U	<2.00 U	NA	NA
Methyl isobutyl ketone	<3.40 U	<2.00 U	NA	NA
2-Nitropropane	<1.70 U	<1.00 U	NA	NA
Tetrachloroethene	<0.169 U	<0.100 U	NA	NA
Toluene	<0.169 U	<0.100 U	NA	NA
1,1,1-Trichloroethane	<0.170 U	<0.100 U	NA	NA
1,1,2-Trichloroethane	<0.170 U	<0.100 U	NA	NA
Trichloroethene	<0.169 U	<0.100 U	NA	NA
Trichlorofluoromethane	<0.170 U	<0.100 U	NA	NA
1,1,2-Trichlorotrifluoroethane	<1.70 U	<1.00 U	NA	NA
Xylenes, Total	<0.508 U	<0.310 U	NA	NA
F001-5 SVOCs (mg/kg)				
Nitrobenzene	<0.420 U	<25.0 U	NA	NA
Pyridine	<0.420 U	<25.0 U	NA	NA
Cresol	<0.420 U	<25.0 U	NA	NA

Notes:
(1) U - Indicates compound/analyte was analyzed for but not detected, the associated value is the sample reporting limit.
(2) NA - Indicates sample not analyzed for this compound/analyte.
(3) J - Indicates estimated value

Table 11
Surface Water Analytical Results
Metals and PCBs

Compound/Analyte	Sample Location and Date Sampled/Concentration											
	JPMS-SW-01 10/24/2001		JPMS-SW-02 10/24/2001		JPMS-SW-03 10/24/2001		JPMS-SW-04 10/24/2001		JPMS-SW-05 10/24/2001		JPMS-SW-06 10/24/2001	
Metals (mg/L)												
Cadmium	<0.010		<0.010		<0.010		<0.010		<0.010		<0.010	
Chromium	<0.040		<0.040		<0.040		0.104		0.045		<0.040	
Lead	0.0686		0.0061		0.0272		0.267		0.0623		<0.0050	
PCB (ug/L)												
Aroclor-1016	<0.2	UJ	<0.2	UJ	<0.2	UJ	<2	UJ	<0.2	UJ	<0.2	UJ
Aroclor-1221	<0.2	UJ	<0.2	UJ	<0.2	UJ	<2	UJ	<0.2	UJ	<0.2	UJ
Aroclor-1232	<0.2	UJ	<0.2	UJ	<0.2	UJ	<2	UJ	<0.2	UJ	<0.2	UJ
Aroclor-1242	<0.2	UJ	<0.2	UJ	<0.2	UJ	9.4	J	0.37	J	2.34	J
Aroclor-1248	<0.2	UJ	<0.2	UJ	<0.2	UJ	<2	UJ	<0.2	UJ	<0.2	UJ
Aroclor-1254	<0.2	UJ	<0.2	UJ	<0.2	UJ	<2	UJ	<0.2	UJ	<0.2	UJ
Aroclor-1260	0.25	J	<0.2	UJ	<0.2	UJ	<2	UJ	<0.2	UJ	0.28	J

Notes:
(1) U - Indicates compound/analyte was analyzed for but not detected, the associated value is the sample reporting limit.
(2) NA - Indicates sample not analyzed for this compound/analyte.
(3) J - Indicates estimated value

Table 12
Laboratory Analytical Results
PCBs and TPHs

Compound/Analyte	Sample Location and Date Sampled/Concentration									
	JPMS-GP2-004 6 to 7 feet		JPMS-RM-1 surface		JPMS-RM-2 surface		JPMS-RM-3 surface		JPMS-BH-001 composite	
PCB (mg/kg)										
Aroclor-1016	<0.332	UJ	<0.350	U	<0.291	U	<1.50	U	< 0.255	U
Aroclor-1221	<0.332	UJ	<0.350	U	<0.291	U	<1.50	U	< 0.255	U
Aroclor-1232	<0.332	UJ	<0.350	U	<0.291	U	<1.50	U	< 0.255	U
Aroclor-1242	<0.332	UJ	<0.350	U	<0.291	U	<1.50	U	< 0.255	U
Aroclor-1248	<0.332	UJ	<0.350	U	<0.291	U	<1.50	U	< 0.255	U
Aroclor-1254	<0.332	UJ	2.11		0.919		4.52		0.38	
Aroclor-1260	<0.332	UJ	<0.350	U	<0.291	U	<1.50	U	<0.255	U
TPH (mg/kg)										
TPH as Gas	<66	UJ	NA		NA		NA		NA	
TPH as Diesel	<66	UJ	NA		NA		NA		NA	
TPH as Oil	33,200	J	NA		NA		NA		NA	

Compound/Analyte	Sample Location and Date Sampled/Concentration									
	JPMS-TP1-001 7 to 8 feet		JPMS-TP2-001 5 to 5.5 feet		JPMS-TP2-002 2.5 to 3 feet		JPMS-TP3-001 6 to 6.5 feet		JPMS-TP4-001 4 to 4.5 feet	
PCB (mg/kg)										
Aroclor-1016	<0.331	U	<0.329	U	<0.315	U	<0.320	U	<0.297	UJ
Aroclor-1221	<0.331	U	<0.329	U	<0.315	U	<0.320	U	<0.297	UJ
Aroclor-1232	<0.331	U	<0.329	U	<0.315	U	<0.320	U	<0.297	UJ
Aroclor-1242	<0.331	U	0.382		<0.315	U	<0.320	U	<0.297	UJ
Aroclor-1248	2.850		<0.329	U	4.190		<0.320	U	7.660	J
Aroclor-1254	<0.331	U	<0.329	U	<0.315	U	<0.320	U	<0.297	UJ
Aroclor-1260	0.742		<0.329	U	0.579		<0.320	U	0.820	J
TPH (mg/kg)										
TPH as Gas	<66	U	<66	U	<63	U	<64	U	<59	U
TPH as Diesel	<66	U	<66	U	<63	U	<64	U	<59	U
TPH as Oil	62,300	J	3,950		57,900	J	397		36,900	J

Notes:
(1) U - Indicates compound/analyte was analyzed for but not detected, the associated value is the sample reporting limit.
(2) NA - Indicates sample not analyzed for this compound/analyte.
(3) J - Indicates estimated value

Table 13
Laboratory Analytical Results
Chromium, Hexavalent Chromium and Percent Moisture

Compound/Analyte	Sample Location and Sample Interval/Concentration									
	JPMS-SS-1A-2 surface		JPMS-SS-1B-2 surface		JPMS-SS-1C-2 surface		JPMS-SS-2D-2 surface		JPMS-SS-2H-2 surface	
Metals (mg/kg)										
Chromium	228	J	420	J	504	J	601	J	526	J
Hexavalent Chromium	<1	U	<1	U	<1.2	U	<1	U	<1	U
Weight %										
Percent Moisture	1.98		1.75		19.89		0.87		1.41	

Notes:
(1) U - Indicates compound/analyte was analyzed for but not detected, the associated value is the sample reporting limit.
(2) J - Indicates estimated value
(3) Chromium analytical results were reported in November 2001 from initial surface soil sample collection performed in October 2001
(4) Last digit in sample number -2, indicates second round of sample collection specifically for hexavalent chromium and percent moisture analysis.

Table 13 (Continued)
Laboratory Analytical Results
Chromium, Hexavalent Chromium and Percent Moisture

Compound/Analyte	Sample Location and Sample Interval/Concentration									
	JPMS-SS-2I-2 surface		JPMS-SS-3A-2 surface		JPMS-SS-3B-2 surface		JPMS-SS-3C-2 surface		JPMS-SS-3D-2 surface	
Metals (mg/kg)										
Chromium	465	J	407	J	674	J	558	J	213	J
Hexavalent Chromium	<1	U	<1	U	<1	U	<1	U	<1.1	U
Weight %										
Percent Moisture	0.59		0.77		3.52		0.77		5.91	

Notes:
(1) U - Indicates compound/analyte was analyzed for but not detected, the associated value is the sample reporting limit.
(2) J - Indicates estimated value
(3) Chromium analytical results were reported in November 2001 from initial surface soil sample collection performed in October 2001
(4) Last digit in sample number -2, indicates second round of sample collection specifically for hexavalent chromium and percent moisture analysis.

Table 13 (Continued)
Laboratory Analytical Results
Chromium, Hexavalent Chromium and Percent Moisture

Compound/Analyte	Sample Location and Sample Interval/Concentration									
	JPMS-SS-3E-2 surface		JPMS-SS-3F-2 surface		JPMS-SS-3G-2 surface		JPMS-HA1-001 1 to 1 feet		JPMS-HA2-001 0.5 to 0.5 feet	
Metals (mg/kg)										
Chromium	580	J	452	J	583	J	1,090	J	1,180	J
Hexavalent Chromium	<1	U	<1	U	<1	U	1.2		<1	U
Weight %										
Percent Moisture	0.43		0.06		0.70		7.88		2.57	

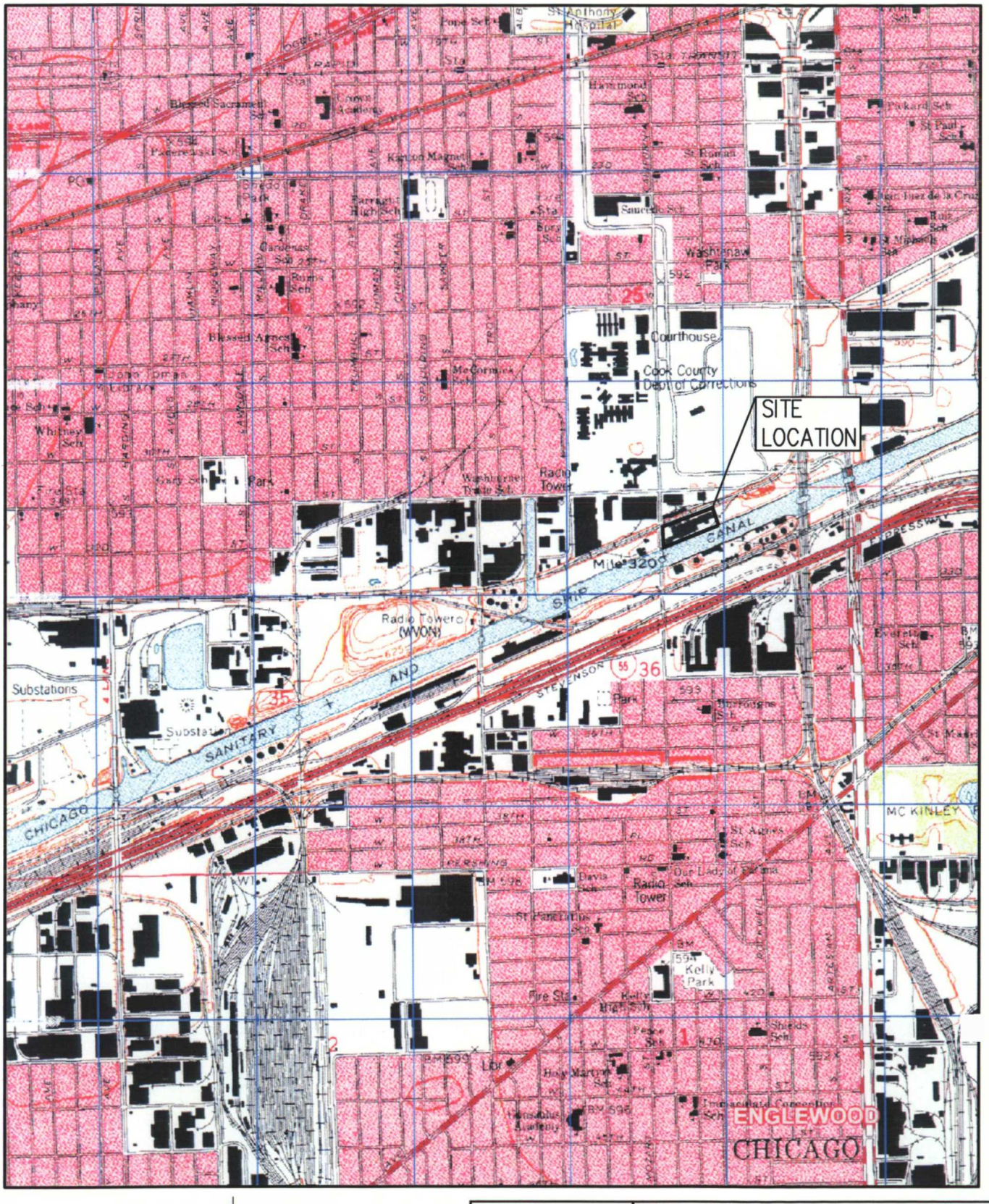
Notes:
(1) U - Indicates compound/analyte was analyzed for but not detected, the associated value is the sample reporting limit.
(2) J - Indicates estimated value
(3) Chromium analytical results were reported in November 2001 from initial surface soil sample collection performed in October 2001
(4) Last digit in sample number -2, indicates second round of sample collection specifically for hexavalent chromium and percent moisture analysis.

Table 13 (Continued)
Laboratory Analytical Results
Chromium, Hexavalent Chromium and Percent Moisture

Compound/Analyte	Sample Location and Sample Interval/Concentration							
	JPMS-HA3-001 1.5 to 2 feet		JPMS-WP-01-2 Composite		JPMS-WP-02-2 Composite		JPMS-WP-03-2 Composite	
Metals (mg/kg)								
Chromium	768	J	1,560	J	2,060	J	423	J
Hexavalent Chromium	<1.1	U	<1	U	<1	U	<1	U
Weight %								
Percent Moisture	12.65		0.42		0.23		0.66	

Notes:
(1) U - Indicates compound/analyte was analyzed for but not detected, the associated value is the sample reporting limit.
(2) J - Indicates estimated value
(3) Chromium analytical results were reported in November 2001 from initial surface soil sample collection performed in October 2001
(4) Last digit in sample number -2, indicates second round of sample collection specifically for hexavalent chromium and percent moisture analysis.

Figures



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SCALE IN FEET

Burns & McDonnell
SINCE 1898

Figure 1

SITE LOCATION MAP
J. PITT MELT SHOP
3151 S. CALIFORNIA AVE.
CHICAGO, ILLINOIS

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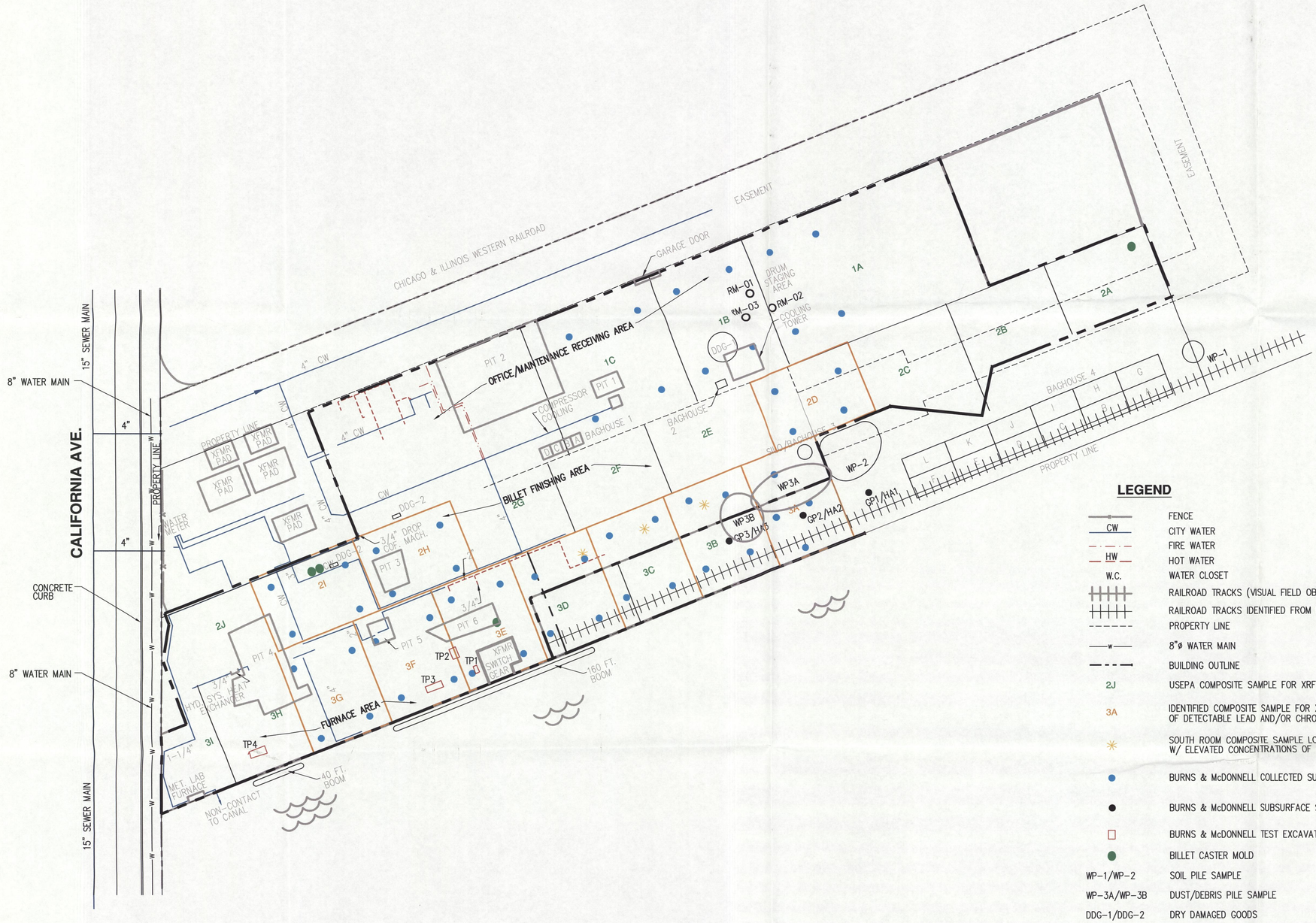

LEGEND

	FENCE
CW	CITY WATER
HW	HOT WATER
W.C.	WATER CLOSET
	RAILROAD TRACKS (VISUAL FIELD OBSERVATIONS)
	RAILROAD TRACKS IDENTIFIED FROM PLAT OF SURVEY
	PROPERTY LINE
w	8"ø WATER MAIN
	BUILDING OUTLINE
2J	USEPA COMPOSITE SAMPLE FOR XRF FIELD SCREENING
3A	IDENTIFIED COMPOSITE SAMPLE FOR XRF FIELD SCREENING WITH ELEVATED CONCENTRATIONS OF DETECTABLE LEAD AND/OR CHROMIUM AND/OR CADMIUM.
	SOUTH ROOM COMPOSITE SAMPLE LOCATION W/ ELEVATED CONCENTRATIONS OF CHROMIUM
	BURNS & McDONNELL COLLECTED SURFACE SOIL SAMPLE LOCATIONS
	BURNS & McDONNELL SUBSURFACE SAMPLE LOCATION
	BURNS & McDONNELL TEST EXCAVATION LOCATIONS
	BILLET CASTER MOLD
WP-1/WP-2	SOIL PILE SAMPLE
WP-3A/WP-3B	DUST/DEBRIS PILE SAMPLE
DDG-1/DDG-2	DRY DAMAGED GOODS
	SURFACE SOIL SAMPLE TO CONFIRM RESINOUS MATERIAL CLEANUP

NORTH

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SCALE IN FEET

NOTE:
PLAN ADAPTED FROM AUGUST 16, 1993 CITY WATER PIPING PLAN MY MECA ENGINEERING CORP.

no.	date	by	revision

Burns & McDonnell
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date | detailed

designed | checked

J. PITT MELT SHOP
3151 S. CALIFORNIA AVE.
CHICAGO, ILLINOIS

Figure 4
BURNS & McDONNELL
SAMPLING LOCATIONS MAP

project: J. PITT MELT SHOP | contract

drawing | rev. —

sheet | of | sheets

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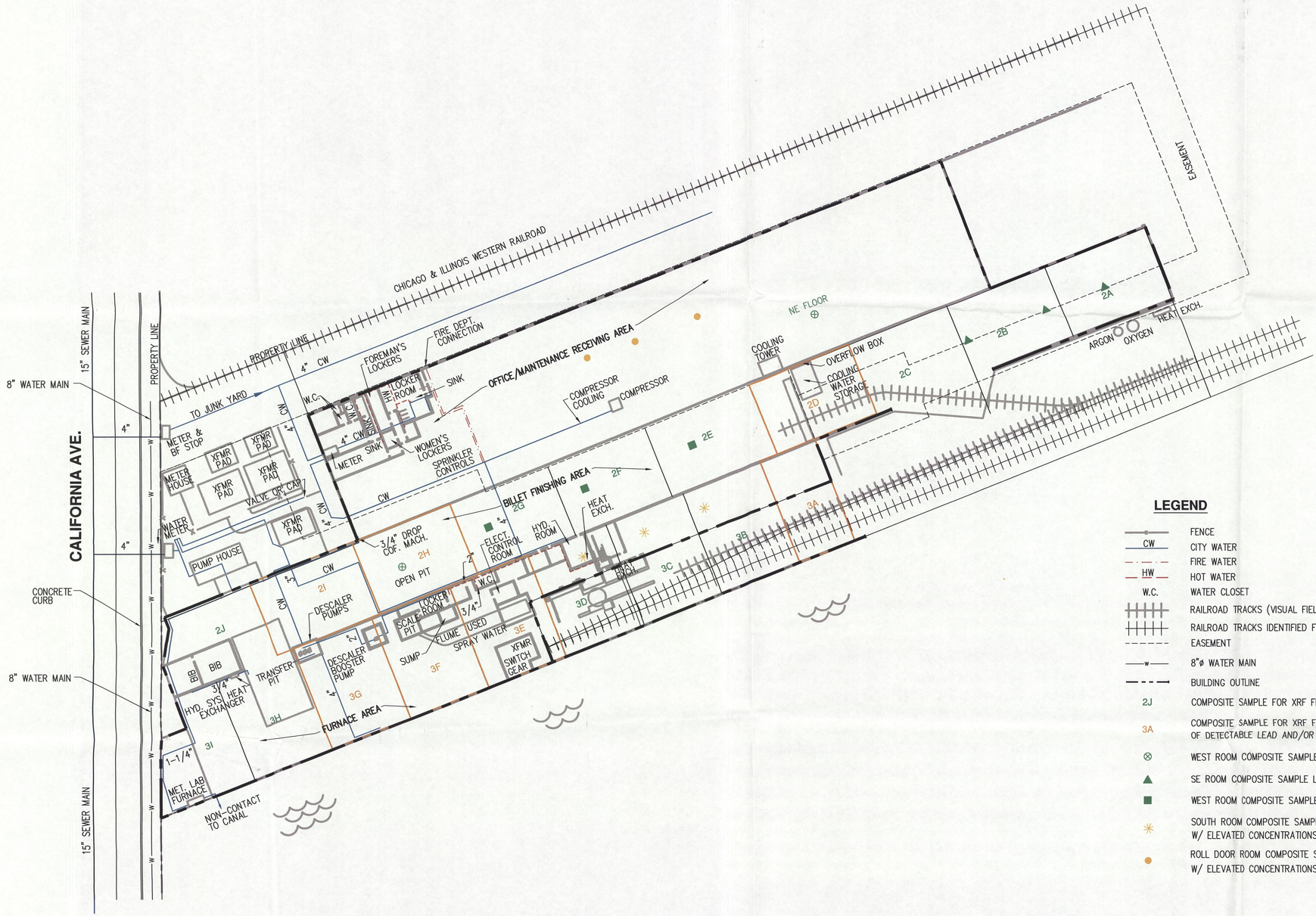

LEGEND

- FENCE
- CW — CITY WATER
- FIRE WATER
- HW — HOT WATER
- W.C. — WATER CLOSET
- RAILROAD TRACKS (VISUAL FIELD OBSERVATIONS)
- RAILROAD TRACKS IDENTIFIED FROM PLAT OF SURVEY
- EASEMENT
- w — 8"ø WATER MAIN
- BUILDING OUTLINE
- 2J — COMPOSITE SAMPLE FOR XRF FIELD SCREENING
- 3A — COMPOSITE SAMPLE FOR XRF FIELD SCREENING WITH ELEVATED CONCENTRATIONS OF DETECTABLE LEAD AND/OR CHROMIUM AND/OR CADMIUM.
- ⊗ WEST ROOM COMPOSITE SAMPLE LOCATION
- ▲ SE ROOM COMPOSITE SAMPLE LOCATION
- ■ WEST ROOM COMPOSITE SAMPLE LOCATION
- ✳ SOUTH ROOM COMPOSITE SAMPLE LOCATION W/ ELEVATED CONCENTRATIONS OF CHROMIUM
- ● ROLL DOOR ROOM COMPOSITE SAMPLE LOCATION W/ ELEVATED CONCENTRATIONS OF LEAD AND CHROMIUM

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SCALE IN FEET

NOTE:
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date | detailed

designed | checked

J. PITT MELT SHOP
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CHICAGO, ILLINOIS

Figure 3
PREVIOUS INVESTIGATIONS SAMPLE LOCATION MAP

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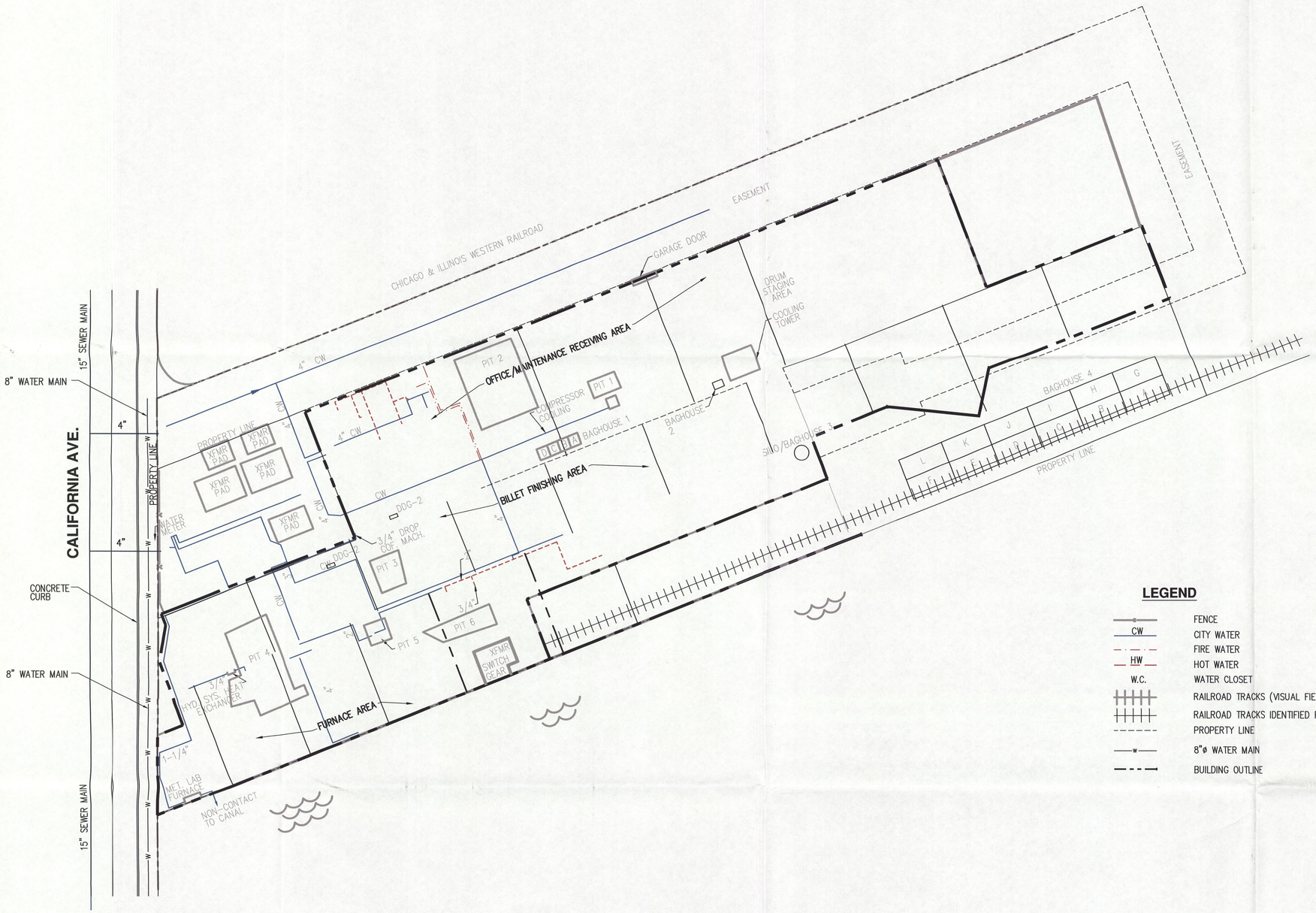

LEGEND

- FENCE
- CW — CITY WATER
- FIRE WATER
- HW — HOT WATER
- W.C. — WATER CLOSET
- RAILROAD TRACKS (VISUAL FIELD OBSERVATIONS)
- RAILROAD TRACKS IDENTIFIED FROM PLAT OF SURVEY
- PROPERTY LINE
- —w— 8"ø WATER MAIN
- BUILDING OUTLINE

NORTH

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SCALE IN FEET

NOTE:
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no.	date	by	revision

Burns & McDonnell SINCE 1898

date | detailed

designed | checked

J. PITT MELT SHOP
3151 S. CALIFORNIA AVE.
CHICAGO, ILLINOIS

Figure 2
SITE LAYOUT MAP

project: J. PITT MELT SHOP | contract

drawing | rev. —

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LEGEND

- FENCE
- RAILROAD TRACKS IDENTIFIED FROM PLAT OF SURVEY
- PROPERTY LINE
- 8"ø WATER MAIN
- BUILDING OUTLINE
- DUST MONITORING SAMPLE LOCATION

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SCALE IN FEET

NOTE:
PLAN ADAPTED FROM AUGUST 16, 1993 CITY WATER PIPING PLAN MY MECA ENGINEERING CORP.

no.	date	by	revision

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designed	checked

J. PITT MELT SHOP
3151 S. CALIFORNIA AVE.
CHICAGO, ILLINOIS

Figure 5
BAGHOUSE DUST MONITORING
LOCATION DIAGRAM

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Appendix A

Appendix A
Burns & McDonnell Site Investigation/Removal Action Work Plan

SITE INVESTIGATION/REMOVAL ACTION WORK PLAN

for

J-PITT MELT SHOP
3151 S. CALIFORNIA AVENUE
CHICAGO, ILLINOIS

Prepared for

M.S. KAPLAN COMPANY
55 E. MONROE
SUITE 4620
CHICAGO, ILLINIOS

SEPTEMBER 2001

BURNS & MCDONNELL PROJECT NO. 27695

Burns & McDonnell Engineering Company, Inc.
Engineers-Geologists-Scientists
2601 West 22nd Street
Oak Brook, Illinois 60523

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Executive Summary

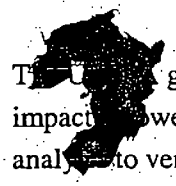
Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) has been retained by M.S. Kaplan Company to prepare a Site Investigation/Removal Action (SI/RA) Work Plan (Work Plan) at the J-Pitt Melt Shop (Site) located at 3151 South California Avenue, Chicago, Illinois. The Site is comprised of approximately 6 acres of land improved with one building, approximately 240,000 square feet in size. The building consists of three sections: the furnace area at the south end; the billet finishing area at the center; and the office, maintenance and receiving areas at the north end. A guard house is located inside the western fenced area of the property. The Site is bordered to the north by a railroad, to the south by the Chicago Sanitary and Ship Canal, to the east by a scrap yard, and to the west by California Avenue and other industrial and commercial operations.

According to the U.S. Environmental Protection Agency (USEPA) Administrative Order by Consent (AOC) for the J-Pitt Melt Shop, the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC), formerly known as the Metropolitan Sanitary District, along with Ketler-Elliott Erection Company entered into a lease of the Site in 1918. The lease was assigned to Hansell-Elcock Company in 1923. In 1961, Hansell-Elcock assigned the lease to California Auto Reclamation Company (more than 50% owned by M.S. Kaplan Company). J-Pitt Melt Shop, Inc. was a sublease at the Site and utilized the Site for production of steel billets and blooms from scrap steel between approximately 1994 to 1996. J-Pitt Melt Shop, Inc., was incorporated in Illinois in 1994 and involuntarily dissolved in 1998. In 1997, its parent company filed a voluntary petition in United States (U.S.) Bankruptcy Court, Western District of Pennsylvania, under Chapter 11 of the U.S. Bankruptcy Act. The case was dismissed in 1999.

On April 5, 2001, the City of Chicago Department of Environment (CDOE) observed an oil-based waste being released from the sheet pile wall along the south side of the Site and flowing into the Chicago Sanitary and Ship Canal. CDOE also observed stored artillery shells. The CDOE requested assistance from the U.S. Army and the USEPA to address the artillery shells and oil impacts.

During a May 11, 2001 telephone interview, arrangements were made for the disposal of munitions by M.S. Kaplan through ATF. Mr. Jim Allison, Supervisory Special Agent for the Explosives Enforcement Group of the U.S. Army, indicated that the artillery shells noted by CDOE were received and have been "destroyed" by the U.S. Army "EOD Unit" from Fort McCoy, Wisconsin, approximately one week after receipt of the artillery shells.

The USEPA conducted assessment activities at the Site and deployed a boom along the southern edge of the Site to contain the release of oil into the Chicago Sanitary and Ship Canal. The J-Pitt Melt Shop USEPA AOC identifies the oil source area as possibly from underneath the current building in the vicinity of the electrical switch room. The USEPA guided assessment activities consisted of soil and dust field screening and sampling for laboratory analysis at specified areas of the Site. The USEPA guided investigation identified Site impacts of total lead, total cadmium and polychlorinated biphenyls (PCBs).



guided field screening also identified areas at the Site with possible lead and cadmium impact[illegible]wever, Burns & McDonnell recommends that soil in these areas be collected for laboratory analy[illegible]to verify impacts.

The USEPA AOC for the J-Pitt Melt Shop identifies the following hazardous materials located within the facility: Resinous material, containing 54,000 ppm of polychlorinated biphenyls (PCBs), appeared to have spilled from a capacitor; suspect electric arc furnace dust (K061) located in baghouses within and outside of the facility; lead, chromium and cadmium identified in dust and ash primarily in the furnace and billet finishing areas; and drums and containers with acids, caustics, oils and solvents located throughout the facility. Other environmental conditions identified by the J-Pitt Melt Shop USEPA AOC include: radioactive sources of Cesium-137 in mold level control devices; friable suspect asbestos pipe insulation, broken bags of granular and powderous materials, and a release of oil-based waste into the Chicago Sanitary and Ship Canal.

Environmental concerns to be investigated as part of this SI/RA Work Plan at the Site include:

- Soil and dust within the floors of the facility, primarily in the furnace and billet finishing areas,
- Liquids and/or solids inside approximately (124) 55-gallon drums, (37) 25-gallon and 5-gallon drums, and approximately 150 smaller containers,
- Radioactive source materials containing Cesium-137,
- Resinous material, containing 54,000 ppm of polychlorinated biphenyls (PCBs), apparently spilled from a capacitor,
- Observed release of oil-based waste into the Chicago Sanitary & Ship Canal,
- Open sumps and pits inside the facility,
- Two baghouse units, one inside and one outside of the facility, which may contain electric arc furnace dust,
- Suspect slag and electric arc furnace dust piles outside of the facility,
- Damaged dry goods located within the facility,
- Friable suspect asbestos pipe insulation fallen onto the floor of the facility.

Based upon the concerns previously identified, Burns & McDonnell's SI/RA will include the following activities:

1. Stage, sample, and/or secure identified Site wastes and residual materials, including the following: 55-gallon drums and smaller containers; baghouse dust; liquid in pits, sumps and tanks; bagged waste; radioactive materials; and friable suspect asbestos from pipe wrap and other sources.

2. Investigate the oil spillage into the canal to determine if the source area is from the Site, in addition to controlling oil seepage into the canal.

3. Investigate soils, dust, ash and debris and develop a risk assessment to determine the applicable surface and subsurface soil remediation goals for the Site under a Comprehensive Environmental Response Compensation and Liability Act (CERCLA) removal action, or determine applicable disposal arrangements.

4. Investigate and prepare removal and disposal arrangements of the drum materials based on waste characterization analysis and visual analysis of the drum(s) condition.

5. Develop and implement disposal arrangements of the identified Cesium-137 radioactive materials as exempt radioactive materials with the coordination of Ronan Engineering, the original manufacturer of those devices.

6. Develop and implement disposal arrangements, if any, of any other hazardous wastes, after investigation activities identified as part of this SI/RA Work Plan.

The overall objective of the Site Investigation and Removal Action (SI/RA) Work Plan is to investigate the hazardous substances identified by the United States Environmental Protection Agency's (USEPA) Administrative Order by Consent (AOC) pursuant to Section 106 of CERCLA, 42 United States Code Section 9606.

This work plan outlines anticipated field activities, sampling procedures and protocols, analytical methods and quality assurance/quality control (QA/QC) methods and procedures that will be followed during the SI/RA. Investigation results will be summarized and evaluated in monthly progress report(s) as indicated in the J-Pitt Melt Shop USEPA AOC. Additional subsequent investigation or removal activities will be identified in subsequent monthly progress report(s) and/or work plans.

* * * * *

1.0 Introduction

Burns & McDonnell Engineering Company, Inc. (Burns & McDonnell) has been retained by M.S. Kaplan Company to prepare a Site Investigation/Removal Action (SI/RA) Work Plan (Work Plan) at the J-Pitt Melt Shop located at 3151 South California Avenue, Chicago, Illinois (Site). The Site is comprised of approximately 6 acres of land improved with one building, approximately 240,000 square feet in size. The building consists of three sections: the furnace area at the south end; the billet finishing area at the center; and the office, maintenance and receiving areas at the north end. A guard house is located inside the western fenced area of the property. The Site is bordered to the north by a railroad, to the south by the Chicago Sanitary and Ship Canal, to the east by a scrap yard, and to the west by California Avenue and other industrial and commercial operations.

The Site is located in Section 35, Township 39 North, Range 13 East in the City of Chicago, Illinois in Cook County (Figure 3). The Site has historically been utilized for steel processing and related industries. The Site is currently leased by M.S. Kaplan and was last subleased to J-Pitt Melt Shop, Inc. between approximately 1994 to 1996, for production of steel billets from scrap steel.

This work plan outlines anticipated field activities and sampling procedures and protocols that will be followed during the SI/RA. Analytical methods and quality assurance/quality control (QA/QC) methods and procedures are contained in Section 4 and 5 of this Work Plan. Investigation results will be summarized and evaluated in a monthly progress report(s) as identified in the J-Pitt Melt Shop USEPA AOC. Additional work plan(s) will be prepared for removal action based on the results of the investigations outlines herein.

This work plan is organized into the following sections:

- **Section 1.0 Introduction**—presents SI/RA objectives, project team organization and anticipated schedule.
- **Section 2.0 Site Background and History**—summarizes background information, potential chemicals that may be found at the Site, site geology and hydrogeology and surrounding land uses.
- **Section 3.0 Site Investigation Plan**—presents and discusses sample collection locations, anticipated number of samples to be collected, and analyses to be performed.
- **Section 4.0 Field Sampling Plan**—outlines SI/RA activities, describes sample locations, sampling procedures, handling procedures for SI/RA derived wastes, surveying procedures and presents analytical methods and detection limits.
- **Section 5.0 Risk Assessment**— provides the approach to the risk assessment which will be to follow the basic and supplementary guidance by USEPA for risk assessment of Superfund sites.

- **Section 6.0 Quality Assurance/Quality Control (QA/QC) Project Plan**—presents site specific and general QA/QC procedures.
- **Section 7.0 References.**
- **Appendix A**—contains field sampling procedures for collection of volatile organic soil samples.

Field activities associated with this SI/RA will be performed in accordance with Burns & McDonnell safety standards documented in the *Site Health and Safety Plan for the J-Pitt Melt Shop, Chicago, Illinois (July 2001).*

1.1 INVESTIGATION OBJECTIVES

The overall objective of the Site Investigation and Removal Action (SI/RA) Work Plan is to investigate the hazardous substances identified by the United States Environmental Protection Agency's (USEPA) Administrative Order by Consent (AOC) pursuant to Section 106 of the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA"), 42 United States Code Section 9606.

This work plan outlines anticipated field activities, sampling procedures and protocols, analytical methods and quality assurance/quality control (QA/QC) methods and procedures that will be followed during the SI/RA. Investigation results will be summarized and evaluated in monthly progress report(s) as indicated in the J-Pitt Melt Shop USEPA AOC. Additional subsequent investigation or removal activities will be identified in subsequent monthly progress report(s) and/or work plans.

The USEPA AOC for the J-Pitt Melt Shop identified the following hazardous materials located within the facility: Resinous material, containing 54,000 ppm of polychlorinated biphenyls (PCBs), appeared to have spilled from a capacitor; suspect electric arc furnace dust (K061) located in baghouses within and outside of the facility; lead, chromium and cadmium identified in dust and ash primarily in the furnace and billet finishing areas; and drums and containers with acids, caustics, oils and solvents located throughout the facility. Other environmental conditions identified by the J-Pitt Melt Shop USEPA AOC include: radioactive sources of Cesium-137 in mold level control devices; friable suspect asbestos pipe insulation, broken bags of granular and powderous materials, and a release of oil-based waste into the Chicago Sanitary and Ship Canal.

The following environmental concerns for investigation as part of this SI/RA Work Plan at the Site are separated as follows:

- Soil and dust within the floors of the facility, primarily in the furnace and billet finishing areas,
- Liquids and/or solids inside approximately (124) 55-gallon drums, (37) 25-gallon and 5-gallon drums, and approximately 150 smaller containers,
- Radioactive source materials containing Cesium-137,

- Resinous material, containing 54,000 ppm of polychlorinated biphenyls (PCBs), apparently spilled from a capacitor,
- Observed release of oil-based waste into the Chicago Sanitary & Ship Canal,
- Open sumps and pits inside the facility,
- Two baghouse units, one inside and one outside of the facility, which may contain electric arc furnace dust,
- Suspect slag and electric arc furnace dust piles outside of the facility,
- Damaged dry goods located within the facility,
- Friable suspect asbestos pipe insulation fallen onto the floor of the facility.

Based upon the concerns previously identified, Burns & McDonnell's SI/RA will include the following activities:

1. Stage, sample, and/or secure identified Site wastes and residual materials, including but not limited to the following: all 55-gallon drums and smaller containers; baghouse dust; liquids in pits, sumps and tanks; bagged waste; radioactive materials; and friable suspect asbestos from pipe wrap and other sources,

2. Investigate the oil spillage into the canal to determine if the source area is from the Site, in addition to maintaining control of oil seepage into the canal,

3. Investigate soils, dust, ash and debris and develop a risk assessment to determine the applicable surface and subsurface soil remediation objectives for the Site applicable to this CERCLA removal action, or determine applicable disposal arrangements,

4. Investigate and prepare removal and disposal arrangements of the drum materials based on waste characterization analysis and visual analysis of the drum(s) condition.

5. Develop and implement disposal arrangements of the identified Cesium-137 radioactive materials inside the billet formers and within a box outside as exempt radioactive materials with the coordination of Ronan Engineering the original equipment manufacturer of these and non-hazardous radioactive devices.

6. Develop and implement disposal arrangements, if any, of any other hazardous wastes, after investigation and risk assessment activities identified as part of this SI/RA Work Plan.

Upon completion of this SI/RA, an Engineering Evaluation/Cost Analysis (EE/CA) as outlined by the Superfund Accelerated Cleanup Module (SACM) will be prepared to address removal activities and associated costs.

1.2 PROJECT TEAM ORGANIZATION

Figure 1 presents the project team organization chart for this SI/RA.

1.3 PROJECT SCHEDULE

Burns & McDonnell anticipates implementing the SI field activities within thirty (30) days of final approval from the USEPA of the submitted SI/RA Work Plan followed by monthly progress report(s). The field activities proposed in this SI/RA Work Plan are estimated to take three weeks. Burns & McDonnell anticipates receiving the laboratory data within two weeks of the completion of field activities included as part of this SI/RA Work Plan. The first monthly progress report will be completed within 30 calendar days of the USEPA approval of the SI/RA Work Plan and each subsequent month thereafter of Burns & McDonnell's client-approved involvement in this project. Upon completion of this SI/RA, an Engineering Evaluation/Cost Analysis (EE/CA) as outlined by the Superfund Accelerated Cleanup Module (SACM) will be prepared to address removal activities and associated costs.

* * * *

2.0 Site Background and History

The Site is located in Section 35, Township 39 North, Range 13 East in the City of Chicago, Illinois in the County of Cook and is approximately 6 acres in size (Figure 3). The Site is bordered to the north by a railroad, to the south by the Chicago Sanitary and Ship Canal, to the east by a scrap yard, and to the west by California Avenue and other industrial and commercial operations.

According to the USEPA, the J-Pitt Melt Shop, the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC), formerly known as the Metropolitan Sanitary District, along with Ketler-Elliott Erection Company entered into a lease of the Site property in 1918. The lease was assigned to Hansell-Elcock Company in 1923. In 1961, Hansell-Elcock assigned the lease to California Auto Reclamation Company (more than 50% owned by M.S. Kaplan Company). J-Pitt Melt Shop, Inc. utilized the Site for production of steel billets and blooms from scrap steel between approximately 1994 to 1996. J-Pitt Melt Shop, Inc., was incorporated in Illinois in 1994 and involuntarily dissolved in 1998.

The Site is improved with one building, approximately 240,000 square feet in size. The building consists of three sections: the furnace area at the south end, along the banks of the canal; the billet finishing area at the center; and the office, maintenance and receiving areas at the north end.

2.1 PREVIOUS INVESTIGATIONS

On April 5, 2001, the City of Chicago Department of Environment (CDOE) observed an oil-based waste being released from the sheet pile wall along the south side of the Site and flowing into the Chicago Sanitary and Ship Canal. CDOE also observed stored artillery shells. The CDOE requested assistance from the U.S. Army and the USEPA to address the artillery shells and oil impacts.

During a May 11, 2001 telephone interview, arrangements were made for the disposal of munitions by M.S. Kaplan through ATF. Mr. Jim Allison, Supervisory Special Agent for the Explosives Enforcement Group of the U.S. Army, indicated that the artillery shells noted by CDOE were received and have been "destroyed" by the U.S. Army "EOD Unit" from Fort McCoy, Wisconsin, approximately one week after receipt of the artillery shells.

On April 6, 2001, the USEPA's On-Scene Coordinator (OSC), Brad Benning, mobilized Ferguson Harbor, Inc., to the site to assist with site work. To control the oil sheen on the Canal, several pieces of an absorbent boom were placed in the Canal. Further investigation of the Site disclosed drums and other vessels containing oils, grease, baghouse dust, antifreeze, acids, hydraulic fluid, and other unknown liquids; transformers that appeared to have leaked; open pits with unknown contents; large slag and dust piles, and suspect asbestos containing materials. In addition, the U.S. EPA and Illinois Department of Nuclear Safety (IDNS) performed radiation survey throughout the site building. Four large steel kettles in section two were identified as containing radioactive materials, specifically Cesium-137. Another source of Cesium-137 was discovered in a room between the billet finishing area and the furnace area.

On Monday, April 9, 2001, a four person crew from Ferguson Harbor, along with equipment including a Bobcat, mobilized to the site. The Ferguson Harbor crew began setting up a staging area in section one for the drums, tanks, transformers and other containers located throughout the facility. A sea curtain was placed in the Canal, in addition to the existing absorbent boom, to further contain the oil sheen.

On Monday, April 9, 2001, USEPA also mobilized the Superfund Technical Assessment Team (START) to the Site. START performed air monitoring throughout the site and collected samples to help further identify any threats to human health and the environment. START collected six samples from locations throughout the building. START collected a sample of oil discovered on the floor of a transformer room near the furnace area and used a Chlor-n-oil, PCB field test kit to determine if PCBs were present in the oil. The result from the test kit was less than 50 parts per million (ppm). Therefore, a sample from this area was not sent for analysis. The remaining samples were sent to a laboratory for analysis, four of the samples were analyzed for TCLP Lead and RCRA metals, and the remaining two samples were analyzed for PCBs.

Some of the areas with elevated field screening results were included for laboratory analysis. Of the four samples analyzed for metals, Test America identified concentrations of lead at 856 mg/kg, and chromium at 528 mg/kg and 1,310 mg/kg. Analytical results revealed a sample taken from resinous material apparently spilled from a capacitor on the floor contained a concentration of 54,000 parts per million (ppm) of PCBs. This PCB concentration exceeds the USEPA's *Guidance on Remedial Actions for Superfund Sites with PCB Contamination* remediation objective of 25 ppm for restricted areas.

USEPA initiated an emergency response and arranged for preliminary investigations of the Site. Illinois Institute of Technology (IIT) Research Institute ESAT Region 5 performed the field screening of dust in the facility using an XRF instrument. Certain areas of the Site were gridded to collect composite soil floor samples within each area. Twenty samples were collected for the analysis of lead and cadmium. The results indicate concentrations of lead ranges from non-detectable to 1,254 milligram per kilogram (mg/kg), and concentrations of cadmium ranges from 38 to 639 mg/kg. (However, these results are only field screening and will require additional laboratory analyses of soil samples within these areas to verify field screening concentrations.)

Ferguson Harbor located drums, tanks, and various containers from throughout the building and staged them on-Site. Drums and containers were located throughout the facility, including upper levels of the platforms around the furnace and on top of office rooms located throughout the facility. The contents of the drums located in higher levels were pumped to empty drums on the floor in order to safely remove the drums and their contents from these restricted access areas. A small lab was discovered on-Site. The lab contained small amounts of various acids including nitric acid, muratic acid and hydrofluoric acid. These acids, along with the other chemicals stored in the lab area, were overpacked in five-gallon buckets and staged with the materials.

In an effort to further prevent any oil spills or leaks in the building, Ferguson Harbor drained the large oil reservoirs of several pieces of equipment remaining on site. The oil was pumped into empty 55-gallon drums. As of April 18, 2001, all visible drums, containers, and tanks located throughout the site were staged. In addition, eight gas cylinders and approximately twenty old batteries were found in the building. The final day on-site for U.S. EPA, Ferguson Harbor and START was April 18, 2001.

In summary, the USEPA-guided investigations identified potential impacts of total lead, total cadmium, and PCBs that may exceed risk-based remediation goals for the Site. The field screening also identified areas of the Property that may exceed lead and cadmium risk-based remediation goals for the Site. The laboratory analytical results and summaries of these previous investigations are presented in Appendix A.

2.2 SITE-SPECIFIC PROCESSES AND RESIDUALS

J-Pitt Melt Shop, Inc. last utilized the Site for production of steel billets from scrap steel in 1996. Prior to J-Pitt's occupancy of the Site, various companies subleased and utilized the Site for steel related industries. Review of numerous building plans and detailed drawings of processes at the facility indicate that previous occupants included Charter Electric Melting, Inc, Wisconsin Steel, which is a part of International Harvester, Rocop and California Auto Reclamation Company. Current structures on the Site include one building which consists of three sections: the furnace area at the south end along the banks of the canal; the billet finishing area at the center; and the office, maintenance and receiving areas at the north end. The east exterior end of Site contains a bag house.

On April 5, 2001, the CDOE observed an oil-based waste being released from the sheet pile wall along the south side of the Property and flowing into the Chicago Sanitary and Ship Canal. According to the J-Pitt Melt Shop USEPA AOC, "the source appears to be from under the building structure in the vicinity of the electrical switch room".

The building contains approximately (124) 55-gallon drums, (37) 25-gallon and 5-gallon drums and approximately 150 small containers of various chemicals and oils with potential exposures to nitric acid, hydrofluoric acid, hydrochloric acid, caustics and solvents. According to J-Pitt Melt Shop USEPA AOC, this facility generated K061 dust from its electric arc furnace.

2.3 CONSTITUENTS OF CONCERN

Constituents potentially associated with the former use of the Site for metal melt processing include cyanide and metals (mainly, arsenic, cadmium, chromium, lead and mercury) as well as PCBs associated with oils. The USEPA conducted assessment activities consisting of soil and dust sampling at the Site which identified detectable levels of total lead, total cadmium, total chromium and PCBs.

Occurrence of these constituents is a function of the environment as well as weathering and transport processes present at the Site. The presence of constituents vary by matrix as follows:

- **Air**—Radioactive sources containing Cesium-137 pose a radiation hazard to humans and animals. Friable suspect asbestos has fallen to the floor from the degradation of piping insulation (this was observed by Burns & McDonnell). Two baghouse units are likely to contain electric arc furnace dust (K061), a listed hazardous waste. Dust and ash observed on the floor contains measureable levels of lead, cadmium, and chromium. Many of the raw products remaining on-site are granular and powders containing silicates, which may pose an inhalation hazard.

- **Surface soils**—Hazardous substances from metal melt processing byproducts in soils, largely at or near the surface have the potential to migrate. Most metals and PCBs are likely to persist in a surface soil environment. Volatile Organic Compounds (VOCs) and Semi-volatile Organic Compounds (SVOCs) are either relatively volatile or readily biodegradable and as such are unlikely to persist in a surface soil environment.

- **Subsurface soils**—Metals, PCBs, VOCs and SVOCs may all be present in a subsurface environment. All of these compounds will be analyzed for in subsurface soil samples.

- **Surface water**—Various pits and sumps exist within the facility on the Site. Metals and PCBs may be present in the water within the observed pits, sumps, and lagoons and those constituents will be analyzed from those areas. In addition, an oil-based waste was observed by CDOE and USEPA being released into the Chicago Sanitary and Ship Canal. The dust and ash in the furnace area adjacent to the canal poses and additional source of potential impact to surface waters.

2.4 SITE GEOLOGY, HYDROLOGY AND HYDROGEOLOGY

Burns & McDonnell reviewed several published documents in an effort to understand the regional geological setting in the area of the Site. The Geologic Map of Illinois (Willman 1967) indicates that bedrock beneath the Site is Silurian Dolomite. Based on this map, the approximate depth below ground surface (bgs) to the bedrock surface is generally greater than 50 feet and bedrock is overlain by glacial deposits. *The Quaternary Deposits of Illinois* (Lineback 1979) map indicates that the surface soil at the Site is the Carmi Member of the Equality Formation, which is described as largely quiet water sediments deposited in ancestral lake Chicago. The Carmi Member is described as well bedded silt and some clay (Willman 1975).

The publication entitled Stack Unit Mapping of Geologic Materials in Illinois to a Depth of 15 Meters (Berg and Kempton 1988) indicates that Site soils consist of deposits less than 20 feet thick of the silty Carmi member of the Equality Formation overlying more than 20 feet of clay deposits of the Wedron Formation. Plate 1: Land Burial of Municipal Wastes and Plate 2: Surface and Near-Surface Waste Disposal contained in the publication entitled Potential for Contamination of Shallow Aquifers in Illinois (Berg and Kempton 1984) rate the aquifer susceptibility for the Site as C1 and D2, respectively. For land

burial of municipal wastes, a rating of C1 indicates permeable bedrock within 20 to 50 feet of surface, overlain by till or other fine-rained material. For surface and near-surface waste disposal, a rating of D2 suggests uniform, relatively impermeable silty or clayey till at least 20 feet thick and no evidence of interbedded sand and gravel. These aquifer ratings suggest that near surface waste disposal and land burial of municipal waste exhibits a low likelihood of impacting shallow groundwater aquifers and groundwater beneath the Site.

The surface water body closest to the Site is the Chicago Ship and Sanitary Canal (Canal) located immediately adjacent to the south of the Site. Surface water runoff is primarily controlled by the city storm sewer system. Multiple storm sewer inlets are located around the Site which direct most of the surface water into the City of Chicago's combined sewer system. However, surface water is primarily directed toward the Canal to the south.

The groundwater is not used as a potable water source within one mile of the Site. The City of Chicago obtains its municipal water supplies from Lake Michigan and has an ordinance precluding groundwater use in Chicago.

2.5 LOCATION, ZONING AND ADJACENT SITE USES

The Site is zoned Heavy Manufacturing District (M3-4) and is labeled Sanitary District of Chicago (KRITT Chicago Zoning Ordinance 1999). The surrounding area (within approximately 1,000 feet of the Site) is primarily manufacturing. The Sanitary & Ship Canal lies to the south of the Site and railroad tracks lie to the north.

* * * *

3.0 Site Investigation Plan

This section presents and discusses sample collection locations, anticipated number of samples to be collected, and analyses to be performed. The following environmental concerns for investigation as part of this SI/RA Work Plan are identified as follows:

- Soil and dust within the floors of the facility, primarily in the furnace and billet finishing areas (Section 3.1 – SOIL/FLOOR),
- Liquids and/or solids inside approximately (124) 55-gallon drums, (37) 25-gallon and 5-gallon drums, and approximately 150 smaller containers (Section 3.2 – DRUMS),
- Radioactive source materials containing Cesium-137 (Section 3.3 – RADIOACTIVE MATERIALS),
- Resinous material, containing 54,000 ppm of polychlorinated biphenyls (PCBs), apparently spilled from a capacitor (Section 3.4 – RESINOUS MATERIAL),
- Observed release of oil-based waste into the Chicago Sanitary & Ship Canal (Section 3.5 – VISIBLE OIL BASED WASTE OUTSIDE FACILITY),
- Open sumps and pits inside the facility (Section 3.6 – PITS, SUMPS, LAGOONS),
- Two baghouse units, one inside and one outside of the facility, which may contain electric arc furnace dust (Section 3.7 – BAGHOUSE UNITS),
- Suspect slag and electric arc furnace dust piles outside of the facility (Section 3.8 – DUST PILES),
- Damaged dry goods located within the facility (Section 3.9 – DAMAGED DRY GOODS),
- Friable suspect asbestos pipe insulation fallen onto the floor of the facility (Section 3.10 – FRIABLE SUSPECT ASBESTOS).

Table 1 summarizes the information presented in this section.

3.1 SOIL/FLOOR

3.1.1 Sampling

Up to twelve surface soil samples will be collected from the upper 1 feet of the soil horizon of 12 areas within the facility using a one foot-length sampling trier or trowels. Burns & McDonnell will separate each area into four quadrants, which will be composited into one sample from each area. Sampling locations have been selected based on previous laboratory analytical results and field screening data. Figure 3 identifies the segregated areas for investigation. Samples will be collected as outlined in Section 5.1 and analyzed for the metals lead, chromium, and cadmium. Burns & McDonnell will return to the Site to perform one hazardous waste characterization composite on those samples that exceed applicable exposure levels, as determined from the risk assessment.

Based on the results of the risk assessment, Burns & McDonnell may develop and prepare remedial actions for selected areas and implement necessary remedial action.

3.2 DRUMS

Burns & McDonnell will coordinate the removal and disposal of the approximately (124), 55-gallon drums, the 37, 25-gallon and 5-gallon drums, and approximately 150 small containers based on waste characterization requirements. The investigation of the drums and small containers will first be performed to verify contaminants of concern at the Site. This will include opening and visually assessing drum materials.

Burns & McDonnell will initially investigate by supervising hazardous categorization tests on the approximately (124), 55-gallon drums, the 37, 25-gallon and 5-gallon drums and the approximately 150 small containers. The drums will be screened for the following characteristics:

- pH
- Air Reactive
- Water Reactive
- Oxidizer
- Cyanide
- Sulfide
- Radioactive
- Mercury
- Suspected Perchloric
- Suspected Picric
- Peroxides
- PCBs

Based on the results of the hazardous categorization tests, the drums will be segregated in groups of up to ten waste types. Random sampling of the drums within each waste type will be conducted and laboratory analyzed for the required disposal characterization. Liquids within the drums will be sampled using COLIWASA samplers as outlined in Section 4.4.1. A work plan describing drum disposal methods will be prepared after completion of the work described in this section.

3.3 RADIOACTIVE MATERIALS

The exempt radioactive level gauges consisting of Cesium-137 located within the billet formers and inside a box nearby a billet former will be tested and removed by a properly trained radioactive technician from Ronan Engineering. The billet formers themselves will also be tested to confirm that there is no residual radioactivity within the billet formers. After removal from the facility, the radioactive level gauges and any radioactive billet formers will be properly transported and disposed at a facility certified to accept radioactive materials. Burns & McDonnell will document the removal of the radioactive materials, organize the manifestation and determine any disposal requirements of the billets and four kettles.

3.4 RESINOUS MATERIAL

Burns & McDonnell will visually assess areas previously identified by the USEPA to be impacted by PCBs. These areas include the area where resinous material appeared to have spilled from a capacitor within of the facility.

Three surface soil samples to a depth of 1 foot below ground surface (bgs) will be collected to determine the horizontal extent of resinous materials which contains PCBs using a one foot-length trier or trowels. Samples will be collected and analyzed for PCBs.

After surface soil collection is completed, test pits will be conducted within the facility near the location of the identified resinous material to determine the presence of any suspect transformer oils or any structures leaking transformer oils, if any, into the subsurface soil within the facility to a maximum depth of 8 feet bgs. If suspect transformer oil is visibly encountered, up to five soil samples will be collected from the test pit(s) to verify impact from the suspect transformer oils. The analytical parameters for these subsurface samples include polychlorinated biphenyls (PCBs) and total petroleum hydrocarbons (TPH). Figure 3 depicts the proposed test pit locations. Locations were selected based on identified Site conditions. If proposed test pit locations are inaccessible, they will be relocated during site investigation activities to the nearest accessible point adjacent to the proposed sampling location.

3.5 VISIBLE OIL BASED WASTE OUTSIDE FACILITY

Burns & McDonnell will visually investigate the oil spillage into the canal to determine if the source area is from the Site. This investigation will involve a visual reconnaissance of the canal wall along the south edge of the Site. In addition, test pits will be performed in the vicinity of the alleged source of the oil based waste on the Property. The test pits will be performed to a maximum depth of 8 feet bgs. If any oil is identified from within the test pits, up to five samples will be collected from the test pit(s) to verify impact from the oil. The analytical parameters for these subsurface samples include polychlorinated biphenyls (PCBs) and total petroleum hydrocarbons (TPH).

Prior to test pit excavation activities, Burns & McDonnell will review historical Sanborn Fire Insurance maps (Sanborn maps) of the Property to identify the potential for the presence of underground storage tanks (USTs) in the vicinity of the alleged source of the oil based waste on the Property. In addition, Burns & McDonnell will perform a visual reconnaissance of the vicinity of the alleged source of the oil based waste to identify the potential presence of USTs. If the review of the Sanborn maps and/or the visual reconnaissance identifies USTs in the vicinity of the alleged source of the oil based waste on the Property, then the test pits will also be performed to confirm the presence of any USTs and visually evaluate the condition of any USTs.

Burns & McDonnell will inspect and maintain an oil sorbent boom on the Chicago Sanitary and Ship Canal to capture the visible oil-based seeping into the canal. If necessary, Burns & McDonnell will

replace the oil sorbent boom and verify proper disposal of the saturated boom to an appropriate disposal facility.

3.6 PITS AND SUMPS

Burns & McDonnell will investigate the extent of impacts related to prior usage of pits and sumps observed at the Property.

Up to six liquid samples will be collected from the open pits and sumps located within the facility. Water samples from these areas will be collected using a pond sampler as outlined in Section 4.4.2. The analytical parameters for these water samples will include PCBs and the metals lead, cadmium and chromium. Based on the laboratory analytical results, a risk assessment may be performed on the exposure to the water identified within the pits, sumps, or lagoons. However, Burns & McDonnell may return to perform one hazardous waste characterization composite on the water for disposal, if most practicable. Burns & McDonnell will identify the forward strategy within the monthly report(s) and/or future work plans regarding liquids within pits and sumps.

3.7 BAGHOUSE UNITS

Burns & McDonnell will determine the approximate quantity of baghouse dust and will collect two soil/dust samples within the baghouses located both inside and outside the facility. The two soil/dust samples will be collected using sampling triers as outlined in Section 4.1. The two soil/dust samples from the two baghouses will be analyzed for disposal characterization parameters such as select R-Code and extractable organic halogens (EOX). Depending on the results of the disposal characterization, Burns & McDonnell will arrange for the appropriate disposal methodology.

3.8 DUST PILES

Burns & McDonnell will collect three dust samples from the suspect slag or electric arc furnace dust piles located outside the facility using sampling triers or trowels. The three dust samples from the suspect slag or electric arc furnace dust piles outside the facility will be analyzed for disposal characterization parameters such as select R-Code and extractable organic halogens (EOX). Depending on the results of the disposal characterization, Burns & McDonnell will arrange for the appropriate disposal methodology.

3.9 DAMAGED DRY GOODS

Burns & McDonnell will collect up to two composite samples from among the damaged dry goods within the facility for disposal characterization using sampling triers or trowels. The two composite samples will be analyzed for a full R-Code, EOX and F-Solvent Scan. Depending on the results of the disposal characterization, Burns & McDonnell will arrange for the appropriate disposal methodology.

3.10 FRIABLE SUSPECT ASBESTOS

Burns & McDonnell will perform site reconnaissance to identify and collect the pieces of friable suspect asbestos pipe insulation fallen onto the floor of the facility. The collected suspect asbestos debris, if any, will be analyzed by polarized light microscopy (PLM) for asbestos content. If the samples reveal that the

suspect materials contain more than one percent asbestos, an asbestos abatement contractor will be retained to remove the asbestos debris.

* * * * *

4.0 Field Sampling Plan

This Section presents and discusses investigation and sampling procedures and collection methods, SI/RA derived waste handling and decontamination procedures and analytical methods.

4.1 SURFACE SOIL

Investigation of soils on the floors will be conducted using a foot-length sampling trier or trowel. The trier will be inserted into the waste material at a 0 to 45 degree angle in order to minimize spillage of sample material. Once a core of the material is withdrawn, the sample will be transferred into a sample container with the aid of a stainless steel spatula, labeled and transferred to a laboratory for analysis. Visual observations of soil type and condition will be recorded on a field log book. Visual classification will include text descriptions of soils in accordance with Unified Soil Classification System (USCS) guidelines. In addition, field classification will include principal and minor constituents, observed moisture (if any), soil color and soil texture. Soil samples will be designated with a unique identifier as detailed in Section 4.5. Samples will be placed in a cooler, packed with ice, and shipped to a subcontracted laboratory under proper chain-of-custody procedures. After completion of soil coring activities, core holes will be backfilled with topsoil or patched to match the existing surface material.

4.2 WASTE PILES

Sampling of dust and powdered material piles will be conducted using a waste pile sampler (large sampling trier). The waste pile sampler will be inserted into the pile of dust at 0 to 45 degrees from horizontal and rotated in order to cut a core of the material. At regular intervals, equal portions of the sample will be taken from the surface or near surface of the materials and combined in a sample container. Samples will be placed in a cooler, packed with ice, and shipped to a subcontracted laboratory under proper chain-of-custody procedures. During sampling of dry powdered or granular wastes, a dust, mist, or fume respirator, air-line respirator, abrasive-blasting respirator will be worn in addition to other protective gear.

4.3 DAMAGED DRY GOODS

Investigation of granular materials from the damaged dry goods containers throughout the baghouses will be conducted using a grain sampler. The grain sampler consists of two slotted telescoping tubes, usually made of brass or stainless steel. The outer tube has a pointed tip on one end that permits the sampler to penetrate the material being sampled (fiberdrum, can, bags or sacks). Sacks or bags will be sampled in the position found to prevent further rupture of the bags or sacks. Where there is more than one container, the containers will be segregated according to a table of random numbers as discussed in Section 6.4.1.1.

To obtain the sample, the sampler will be inserted into the granular or powdered material from a point near a top edge or corner, through the center and to a point diagonally opposite the point of entry. The

inner tube of the sampler is rotated into the open position allowing materials to enter the open slot. The sampler is then closed, withdrawn from the material and the inner tube is removed from the outer tube. The inner tube containing the sampled material is then transferred to a sample jar and labeled. Samples will be placed in a cooler, packed with ice, and shipped to a subcontracted laboratory under proper chain-of-custody procedures.

4.4 LIQUID WASTES

4.4.1 Drums

4.4.1.1 Random Sample Selection

Once the materials to be sampled are segregated by waste type (if known) and numbered consecutively, samples will be chosen randomly using a Table of Random Numbers. One number will be chosen as the starting point from any column in the Table of Random Numbers. By going down the column, then to the next column, random numbers between 1 and 20 will be used to select sample locations (USEPA January 1980). At minimum, one sample from each group of five containers will be collected.

4.4.1.2 Drum Sampling Procedure

Using full protective sampling equipment, the following procedure will be used in sampling drums:

1. Position the drum so that the bung is facing up.
2. Allow the contents of the drum to settle
3. Slowly loosen the bung with a bung wrench, allowing any gas pressure to release.
4. Remove the bung and collect a sample through the bung hole with a Coliwasa, as discussed in 4.4.1.3.

4.4.1.3 Drum Sampling Method

Samples of liquid materials in the drums will be sampled using a plastic or glass (depending upon the liquid waste to be sampled) composite liquid waste sampler (Coliwasa). A Coliwasa consists of a T-handle spivel with a sharply tapered neoprene stopper attached to a 3/8 inch rod, usually made of polychlorinated vinyl chloride (PVC). The Coliwasa will be assembled and tested to ensure that the neoprene rubber stopper provides a tight closure. The sampler will be lowered into the liquid waste at a rate that permits the levels of the liquid inside and outside the sampler tube to be about the same. When the sampler hits the bottom of the container, the tube will be pushed downward against the stopper to close the sampler and locked in place. The sampler will then be slowly withdrawn from the waste container and the contents discharged into a sample container.

4.4.2 Sumps and Pits

Samples of liquid materials in sumps and pits will be sampled using a pond sampler. A pond sampler consists of an adjustable clamp used to secure a sampling beaker attached to the end of a two or three piece telescoping aluminum pole that serves as the handle. Grab samples of liquids will be collected from

the sump, pit or lagoon at different distances and depths by inserting the beaker at the end of the pole into the liquid.

4.5 SAMPLE NUMBERING SYSTEM

A sample numbering system will be used to identify each sample collected for chemical and physical analyses. The numbering system provides accurate sample tracking and facilitates retrieval of sample data. Sample identification numbers will be used on sample labels, chain-of-custody forms and other applicable sampling activity documentation. A list of sample numbers will be maintained in the field logbook. Each sample collected will be assigned a unique sample number. Sample numbers will change when the media (soil, water, etc.) or location changes. Sample numbers will not change because different analyses are requested.

Sample identification numbers consist of three components: a two- or three-character alpha and/or alpha numeric site identification code; a four- to five-character alpha numeric sample type code; and a three digit sample characteristic code. The following is an example of a completely numbered sample, with each component identified:

Example:	JPMS-SB01-001
Where:	JPMS = J-Pitt Melt Shop
	SB01 = soil boring location no. 1
	001 = primary soil sample no. 1

The site identification code (e.g. SB01 in the example above) will remain the same for all samples collected at the Site. The sample type code (SB01) will vary depending on sample type and location. The following are typical SI/RA alpha codes to be used:

DMW = deep monitoring well
SMW = shallow monitoring well
SB = soil boring
SD = sediment
SP = soil probe
SS = surface soil
SR = source material
SW = surface water
TP = test pit
RW = residential water
PZ = piezometer water
WP = waste pile
DDG = damaged dry goods
LD = liquid drum

When completing soil borings and probes, if a water sample is collected from an open boring or probe location, a "W" will be attached to the end of the alpha numeric sample type code (e.g. SB01W). The

numerical portion of the sample type code will indicate the sample location (i.e., boring location 01, 02, 03, etc.).

The three-digit sample characteristic code (001) indicates the type of analyses (chemical, QC or physical) and the number of samples collected from each media at a specific sampling location. The first digit will be zero through two for all chemical analyses: zero (0) for primary samples; one (1) for duplicate samples; and two (2) for QC samples. The first digit will be three (3) for physical analyses. The last two digits of the sample characteristic code will indicate the number of each sample collected from each medium at a specific location.

4.6 INVESTIGATION-DERIVED WASTE HANDLING PROCEDURES

Investigation-derived wastes include plastic sheeting, decontamination fluids, disposable sampling equipment and disposable personal protective equipment. Solid and liquid materials will be kept separated. Burns & McDonnell, as needed, will assist M.S. Kaplan in the proper disposal of site investigation-derived wastes. The following subsections discuss procedures for handling these materials and drum labeling procedures.

4.6.1 Solid Materials

Soil and debris removed from probe locations, contaminated disposable sampling equipment that cannot be reasonably decontaminated and contaminated disposable health & safety materials will be segregated and placed in Department of Transportation (DOT) specified 55-gallon drums. Drums will be placed in a secure location as directed by M.S. Kaplan for temporary storage. Disposal methods for these materials will be based on analytical results and will be described in a future work plan.

Disposable sampling equipment and health & safety materials not visibly contaminated will be double-bagged in plastic trash bags and disposed of in a solid waste disposal location (i.e. trash dumpster or container).

4.6.2 Liquid Materials

Decontamination fluids and liquids removed during sampling will be placed directly into Department of Transportation (DOT) specified 55-gallon drums or filtered through activated carbon and then placed in DOT drums. Drums will be placed in a secure location as directed by M.S. Kaplan for temporary storage. Disposal methods for these materials will be based on analytical results and will be described in a future work plan.

4.6.3 Labeling

The following information will be placed on both the side and top of each 55-gallon drum containing investigation-derived wastes:

- Site name.

- Date.
- Waste Type (i.e., water, soil, trash, etc.).
- Waste collection locations (e.g., soil probe or piezometer number).

4.7 ANALYTICAL METHODS AND DETECTION LIMITS

Analytical methods and detection limits for this investigation will conform to USEPA requirements. Detection limits will be at or below USEPA recommended levels. Chemical and physical analysis methods are listed below:

• TCL VOCs	SW846/8260B
• TCLP VOCs	SW846/8260A
• PAHs	SW846/8270 SIM
• TCL SVOCs	SW846/8270
• TCLP SVOCs	SW846/8270A
• TICs	SW846/5035/8260
• Flashpoint	SW1010
• Pesticides	SW846/8081
• PCBs	SW846/8082
• TAL Cyanide (total)	SW846/9012A
• PP metals	Appropriate SW846 Methods
• TCLP metals	Appropriate SW846 Methods
• Soil particle density	ASTM D 854-92
• Moisture content	ASTM D 2216-92
• Soil pH	SW846 9040/9045
• Reactive cyanide	SW846/7.3.3.2
• Reactive sulfide	SW846/7.3.4.2
• Total organic carbon	ASTM D 2974-87
• Grain-size distribution	ASTM D 422

Tables 2 through 5 list analytical detection limits for chemical analyses.

4.8 SURVEYING PROCEDURES

Following completion of field activities, sample locations will be surveyed. The survey will consist of the following:

- Determination of coordinate locations.
- If necessary, determination of coordinate locations for ground surface elevations.

4.9 DECONTAMINATION PROCEDURES

4.9.1 Sampling Equipment

Procedures for equipment decontamination will be implemented to avoid cross-contamination of subsurface strata and various media sampled. The sampling tools will be thoroughly cleaned and decontaminated before initial use.

Initial decontamination will be performed before moving equipment to the Site. In this phase, equipment required to perform sampling will be thoroughly cleaned. Any encrusted soil, mud or organic matter adhering to the equipment will be removed using a high-pressure potable water wash.

Decontamination for sampling equipment includes the following steps:

- Wash with laboratory detergent and potable water.
- Rinse with potable water.
- Rinse with reagent grade ethanol or isopropanol if grease or oil is observed.
- Rinse with distilled water.
- Air dry.
- Wrap in aluminum foil, if necessary, to prevent contamination before use.

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5.0 Risk Assessment

The Site has been initially investigated and characterized as having metal impacts in dust within the facility. Burns & McDonnell will prepare a risk assessment to evaluate whether existing metal concentration levels pose a risk to human health. The most probable receptor is a future industrial worker. The most probable exposure pathway is inadvertent ingestion of dust.

Burns & McDonnell's approach to the risk assessment will be to follow the basic and supplementary guidance provided by USEPA for risk assessment of Superfund sites. This guidance outlines a process with four major components:

- **Data Collection and Evaluation:** The gathering, summarization, and analysis of relevant site data and the identification of chemicals of potential concern. Chemical and other data provided for the site will be reviewed and considered accurate without independent verification or qualification.
- **Toxicity Assessment:** The collection of qualitative and quantitative toxicity information and the determination of appropriate toxicity values. USEPA's Integrated Risk Information System (IRIS) will be the primary source for toxicity data. Other appropriate sources will be used as necessary.
- **Exposure Assessment:** The evaluation of contaminant releases, identification of potentially exposed populations and subpopulations, identification of potentially or actually complete exposure pathways, and estimation of contaminant intakes via exposure routes.
- **Risk Characterization:** The characterization of the potential for adverse health effects to occur, including estimation of cancer risks and non-cancer hazard quotients and evaluation of the uncertainty in the assessment.

Burns & McDonnell will statistically evaluate the analytical results from the site in order to determine the nature of the distribution of values. This statistical evaluation will be used to calculate removal goals such that the post-remediation cumulative risk to humans will not exceed an average of 1E-04 (one in ten thousand), which will be the target risk level for the site.

Note: Removal does not necessarily mean physical removal of soil and groundwater, but rather means removal from the exposure pathway by institutional controls, barriers (like pavement), capping, dig and haul, etc.

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6.0 QUALITY ASSURANCE / QUALITY CONTROL PROJECT PLAN

6.1 PURPOSE AND SCOPE

The purpose of a quality assurance / quality control project plan (QAPP) is to establish the policies, organization, objectives, functional activities, and specific quality assurance activities for the SI/RA. The QAPP describes the specific protocol to be followed for sampling, sample handling and storage, chain-of-custody, and laboratory analysis.

6.2 QUALITY OBJECTIVES AND CRITERIA FOR MEASUREMENT DATA

The overall objective of the QAPP is to establish quality assurance / quality control (QA/QC) criteria for all project activities so that the data generated is scientifically valid, precise, accurate, complete and usable for characterizing chemical distribution and potential site risks, reproducibility, and supportive of the investigation report conclusions. The following sections establish data quality and management objectives for the investigation.

6.2.1 Data Quality and Management Objectives

The following data quality and management objectives have been established for the investigation:

- Data generated during the SI/RA will be utilized to evaluate chemical mobility and extent on the Site.
- Data generated during the SI/RA will allow an evaluation of the accuracy of chemical concentration levels detected at the Site and identify the chemicals of potential concern.
- Data will be reported in units consistent with environmental engineering, geologic, hydrogeologic, and analytical laboratory standards applicable for the data being collected.

All samples will be submitted for laboratory analysis using USEPA analytical methods. QA/QC analytical data will provide the basis for validating Site analytical data obtained during the SI/RA. Site analytical results will be utilized to characterize chemical magnitude and extent at the Site and to evaluate site exposure concerns. Field testing or screening methods (organic vapor measurements and visual sample screening) will be utilized to qualitatively screen samples for chemical residuals; however, these methods will not be utilized to determine chemical concentrations in Site soil or water. Visual sample screening is defined as biased selection of sample locations based on observing stains, stressed vegetation, or other abnormalities. Report conclusions on chemical concentrations present on the Site and potential Site exposure concerns will be based on validated analytical results.

6.2.2 Level of Quality Control

To assess the quality of the data obtained during the field investigation, trip blanks and matrix spike/matrix spike duplicates (MS/MSDs) will be analyzed. Trip blanks, made with laboratory grade water, will be analyzed to assess field sampling activity data quality. Trip blanks are used to ensure that no volatile organic contamination is introduced into the samples as a result of sample handling or

shipping activities. The purpose of MS/MSD samples is to determine the effect of sample matrix on compound and analyte recovery. MS/MSDs will be collected from relatively un-impacted areas to minimize the potential for matrix interference from MGP by products. The following table presents frequency of QA/QC samples.

Quality Control Sample Frequency		
QC Sample	Matrix	Frequency
Field Duplicate	Water	1 per 10 or fewer samples
MS/MSD	Soil and Water	1 per 20 or fewer samples
Rinsate Blank	Water	1 for each major piece of equipment used during sampling*
Trip Blank	Water	1 per cooler containing volatile sample(s)

6.2.3 Quality Control Parameters

To assess whether quality assurance objectives for this project have been achieved, the following control parameters will be considered: precision, accuracy, representativeness, comparability, and completeness. Data validation performed by Burns & McDonnell will be in accordance with applicable, professional, technical standards, USEPA requirements, government regulations and guidelines, and specific project goals and requirements.

6.2.4 Precision and Accuracy

Precision is the level of agreement among individual measurements of the same chemical or physical property. During the data validation process, precision is expressed in terms of relative percent difference (RPD). Chemical concentration data obtained from the analysis of field duplicate samples will be compared to evaluate analytical precision. The RPD equals the difference in duplicate sample chemical concentrations multiplied by 100 percent and divided by the mean average duplicate sample chemical concentration. Perfect precision would be indicated by a RPD of zero percent. The RPD is expressed as follows:

$$RPD = \frac{|(D_1 - D_2)|}{(D_1 + D_2)/2} \times 100$$

Where:

RPD = Relative Percent Difference
D_1 = First Duplicate Value
D_2 = Second Duplicate Value

Field duplicate data is utilized to assess data precision. The Burns & McDonnell review typically utilizes guidelines for inorganic compounds to qualify analytical data (RPD less than 20 percent for water samples) and for samples having low chemical concentrations (less than five times the chemical quantitation limit), a sensitivity test is conducted. Analytical data for samples having low chemical concentrations is considered acceptable if the difference in duplicate sample analytical results is less than one times the chemical quantitation limit.

Accuracy measures the bias of a measurement system and may be defined as the degree of agreement between a measurement and its accepted or true value. The accuracy of chemical results is assessed by examining the results of blank samples. Accuracy of spike samples is expressed as the percent recovery (%R). The %R is the difference between the spiked and unspiked sample results for a chemical divided by the amount of chemical added to the sample and multiplied by 100 percent. Perfect accuracy is defined as 100 percent recovery. An elevated %R indicates high sensitivity in detecting a compound; therefore, non-detect results would not be qualified under this condition. A low %R indicates a low sensitivity in detecting a compound which could require qualification of non-detect results.

6.2.5 Representativeness

Representativeness expresses the degree to which a sample data accurately and precisely represents a characteristic of a population, parameter variations at a sampling point, or an environmental condition. The representativeness of the data will be determined by:

- Qualitative comparison of actual sampling procedures to those presented in this work plan.
- Quantitative comparison of analytical results for field duplicates to determine parameter variation at a sampling point.
- Invalidating non-representative data or identifying data to be classified as questionable through qualitative or quantitative data validation procedures.

Only representative data will be used in subsequent data reduction, validation, and site characterization. Non-representative or questionable data is data, which does not accurately reflect site conditions observed at other sampling points, and is not believed to reflect site impact. A determination of whether data is representative will be completed both qualitatively and through the use of accepted numerical data validation procedures.

6.2.6 Completeness

Completeness defines the percentage of measurements judged to be valid measurements. The laboratory completeness goal is 90 percent. Laboratory completeness will be calculated by dividing the number of samples for which valid laboratory data was obtained by the number of samples submitted for laboratory analysis and multiplying the quotient by 100 percent. At this project stage, no critical samples have been identified for this project. However, critical samples may be identified during the investigation based on field observations or an assessment of the collected data. Similarly, a minimum number of samples needed to characterize the Site have not been developed for this project.

6.2.7 Comparability

Comparability is a qualitative parameter used to express the confidence with which one data set may be compared to another. Comparability is maintained by being aware of previous analytical work and through the use of standard analytical methods and units. Available analytical results from previous studies will be compared with data generated during this investigation. Comparability will be achieved through adherence to procedures specified in this work plan.

6.3 SAMPLE CUSTODY

Each sample or field measurement must be properly documented to identify, track and monitor them from the point of collection through final data reporting. Proper sample documentation and custody procedures help ensure data are accurate and usable. This section discusses the following areas of field investigation documentation: field logbook, photographs, sample numbering system, sample documentation and custody, corrections to documentation, document control and project files.

6.3.1 Field Logbook

Information pertinent to a field survey or sampling event will be recorded in a bound logbook with consecutively numbered pages. Entries in logbooks and on sample documentation forms will be made in waterproof ink. Corrections will consist of single line out deletions that are initialed and dated. Logbook entries will include the following, as applicable:

- Name and title of author, date and time of entry and physical/environmental conditions during field activity.
- Names and addresses of field contacts.
- Names and responsibilities of field crew members.
- Names and titles of site visitors.
- Location, description and log of photographs of sampling points.
- References for maps and photographs of sampling site.
- Information concerning sampling changes, scheduling modifications and change orders.
- Information concerning drilling decisions.
- Details of sampling location (sketches of sampling locations may be appropriate).
- Date and time of sample collection.
- Field observations.
- Field measurements (pH, specific conductance, temperature, depth to water and measuring point).
- Calibration and maintenance information concerning field analytical and monitoring equipment.
- Sample identification number(s).
- Information from reagent container labels (laboratory grade water used for blanks).
- Sample distribution and transportation (e.g., laboratory name and overnight delivery service).

- Sample documentation, such as chain-of-custody form numbers and shipment airbill numbers.
- Decontamination procedures.
- Documentation for investigation-derived wastes, such as contents and approximate waste volume in each drum, number of drums generated and type and predicted level of contamination.
- Summary of daily tasks (including costs) and documentation for cost or scope of work changes required by field conditions.
- Signature of personnel responsible for observations and date.

Sampling situations vary widely; therefore, the exact information that must be entered in a logbook will vary from site to site. However, the logbook should contain enough information to allow anyone to reconstruct the sampling activity without relying on the collector's memory. During the investigation, logbooks will be kept in the possession of a Burns & McDonnell field team member or in a secure place. Following the investigation, logbook(s) will become part of the final project file.

6.3.2 Photographs

When photographing soil or water samples, an informational sign will be prepared and photographed with each sample. This sign will have the Site name, date and a brief description of the sample.

Example: J-Pitt Melt Shop
September 1, 2001
Water sample from MW01

Logbook entries of photographs will have five items of information: field personnel's initials, roll number, frame number, date and a brief description of the photograph.

Example: SD
J-Pitt Melt Shop
Roll No. 1, Frame No. 1
April 1, 2001
Soil sample from 0-2', SB01

6.3.3 Sample Numbering System

A sample numbering system will be used to identify each soil and QC sample collected for chemical and physical analysis. The numbering system is discussed in Section 4.5.

6.3.4 Sample Labels

The following information will be included on each sample label: Site name/client, sample number, name of sampler, sample collection date and time, analysis requested and preservatives added. Information known before field activities (Site name, sample numbers, etc.) can be preprinted on sample labels.

Duplicate sample labels can be prepared when various sample aliquots must be submitted separately for individual analyses.

6.3.5 Chain-of-Custody Forms

A chain-of-custody form will be completed for each sample shipment. After completion of the chain-of-custody form, the original signature (top) copy will be enclosed in a plastic bag and secured to the inside of the cooler lid. A copy of the original custody form will be retained for Burns & McDonnell files.

6.3.6 Custody Seals

Custody seals will be used to ensure the integrity of samples from the time they are relinquished to a delivery service or the laboratory by the sampling team until they are opened in the laboratory. Samples will be shipped in coolers. Each cooler will be sealed with at least two custody seals. Seals must be attached to each cooler so that it is necessary to break them to open the cooler.

6.3.7 Airbill

An airbill will be completed for each different laboratory address to which samples are to be shipped. More than one cooler may be shipped to the same address under one airbill. A copy of the airbill will be given to the Burns & McDonnell representative and will be retained for the project file.

6.3.8 Sample Documentation Procedures

The following itemized list will be used as a general reference for completion of sample documentation:

- Make or obtain a list of samples to be packaged and shipped that day.
- Determine number of coolers required to accommodate the day's shipment based on number of samples to be shipped, number of containers per sample and number of sample containers that will fit in each cooler.
- If samples are shipped by Federal Express, complete an airbill.
- Assign chain-of-custody form to each cooler and determine which sample containers will be shipped in each cooler. (Note: More than one chain-of-custody form may be needed to accommodate number of samples to be shipped in one cooler).
- Determine which samples will be shipped under each chain-of-custody form. Each day that samples are shipped, record chain-of-custody form numbers and air bill numbers (if used) in field logbook. Cross-reference airbill and chain-of-custody numbers.
- Assign custody seals to each cooler and temporarily clip seals to each chain-of-custody form.
- Group all paperwork associated with each cooler with a separate clip.
- Obtain necessary field team members' full signatures or initials on appropriate paperwork.
- Package samples for shipment.

6.3.9 Corrections to Documentation

Original information will be recorded with waterproof ink. If an error is made on a document, corrections will be made by making a single line through the error and entering the correct information. Erroneous

information should not be obliterated. Any error discovered on a document should be corrected by the person who identified the error. Corrections must be initialed and dated.

6.3.10 Document Control

The goal of document control is to ensure all documents for a group of samples will be accounted for when the project is complete. Project file audits may be scheduled. The document control audit consists of checking each document submitted for accountability. Written explanations must be made for missing documents.

6.3.11 Project Files

At the completion of the project, individual files will be assembled, organized and stored as a final record for the project.

6.4 CALIBRATION PROCEDURES AND FREQUENCY

This section describes procedures for maintaining the accuracy of instruments and measuring equipment used to perform field measurements and laboratory analyses.

6.4.1 Field Instruments/Equipment

Instruments and equipment used to gather, generate or measure environmental data will be calibrated daily before each use according to manufacturer's specifications. Equipment and field instruments will also be examined daily to verify proper operating conditions. The manufacturer's operating instructions and manuals for each instrument will be read and understood to ensure maintenance requirements are being observed. If the equipment or instruments were used in a previous investigation, field notes will be checked or the equipment manager will be contacted to verify that prior equipment problems are not overlooked and necessary equipment repairs have been performed.

6.4.2 Laboratory Instruments

Laboratory personnel will be responsible for calibration procedures and frequency of calibration for laboratory instruments. Calibration procedures and frequencies will comply with the specifications required by the USEPA.

6.5 SAMPLE SHIPPING AND ANALYTICAL PROCEDURES

In general, samples collected during SI/RA activities will be delivered to the laboratory within 48 hours of collection. Volatile EnCore™ soil samples must be sent to the laboratory within 24 hours. The method used to transport samples will depend on site location and level of ongoing site activities. The preferred method of shipping samples is to have the laboratory pickup samples at the Site. If this is not possible, Burns & McDonnell will hand deliver or ship the samples by overnight carrier (overnight priority). Laboratory pickups and hand deliveries will occur on every other day. Burns & McDonnell will notify and coordinate weekend deliveries with the laboratory no later than 3 p.m. on the Friday preceding the weekend delivery.

Tables 2 through 7 present analytical methods to be used during the SI/RA. The laboratory will perform sample analyses in accordance with the specified methods and USEPA requirements.

6.6 INTERNAL QUALITY CONTROL CHECKS

6.6.1 Field Sample Collection

The Site project manager and engineer will ensure field sampling QC by verifying that sample collection frequencies and procedures outlined in the SI/RA work plan are maintained. Field duplicates and blanks will also be collected and analyzed to check field QC procedures.

6.6.2 Field Measurement

Field measurement QC procedures will be checked by obtaining multiple readings and by calibrating field instruments daily according to manufacturer's specifications. Field personnel will read and understand applicable sections in manufacturer's literature and operations manuals before field instrument usage. Additionally, field personnel will be trained in proper instrument calibration and handling procedures before using field instruments.

6.6.3 Laboratory Analysis

The laboratory will follow QC procedures specified under USEPA requirements.

6.7 DATA REDUCTION, VALIDATION AND REPORTING

6.7.1 Field Measurements and Sample Collection

Field measurement and sample collection activities will be documented in a field logbook. Data used in project reports will be reduced, validated (to the extent possible) and summarized consistent with other sampling data. A data validation memoranda will be produced, detailing reduction and validation procedures.

6.7.2 Laboratory Services

Data reduction includes processes that change either the form of expression, quantity of data values or number of data items. The Burns & McDonnell project team will analyze validated data and perform data reduction for presentation of these data in the monthly progress report(s). Methods used for data reduction will be described in the monthly progress report(s).

Burns & McDonnell personnel will perform data assessment evaluations (determine whether analytical work is of acceptable quality). Analytical work will be performed in accordance with USEPA approved protocols. The data package will correspond to the analytical procedure chosen.

6.8 PERFORMANCE AND SYSTEM AUDITS

Performance and system audits of field and laboratory activities will be conducted to verify that sampling and analysis are performed in accordance with procedures established in this work plan and QAPP. The following sections describe field and laboratory activity audits.

6.8.1 Field Audits

The project manager or project engineer/review team leader will conduct a field activity audit during field sampling activities. The audit will include examination of field sampling and field instrument operating records, verification of sample collection procedures, compliance with sample handling and packaging procedures and maintenance of QA documents (chain-of-custody forms, log books, sampling tracking matrix form, etc.). Following the audit, a brief report will be prepared summarizing the audit results. Deviations from this work plan and QAPP noted during the audit will be remedied immediately.

6.8.2 Laboratory Audits

Burns & McDonnell will periodically audit the laboratory. Audits will include inspection of the laboratory and submittal of performance evaluation or blind samples for analysis.

6.9 PREVENTATIVE MAINTENANCE PROCEDURES

6.9.1 Field Equipment/Instruments

Field equipment to be used during the investigation includes temperature thermometers, pH meter, conductivity meter and health and safety instruments. Manufacturer's specifications for preventative maintenance and calibration will be followed while using field equipment. Field instruments will be checked and calibrated before being taken to the field. Instruments will be checked and calibrated daily before use. Calibration checks will be performed periodically and documented in a field logbook or on calibration log sheets. Critical spare parts and backup equipment for field instruments will be available for delivery within one day to avoid delays in field activities.

6.9.2 Laboratory Instruments

Preventative maintenance of laboratory instruments is the responsibility of the laboratory. Laboratories that follow CLP protocols have internal groups that perform routine scheduled maintenance and repair or coordinate repairs of instruments. Laboratory instruments are maintained in accordance with manufacturer's specifications and requirements of the specific method employed. Maintenance is carried out on a regular, scheduled basis and is documented in laboratory instrument service logbook(s) for each instrument. Emergency repair or scheduled manufacturer's maintenance is provided under repair and maintenance contracts with factory representatives.

6.10 PROCEDURES TO ASSESS DATA PRECISION, ACCURACY AND COMPLETENESS

6.10.1 Field Measurements

The field team leader will assess field measurements daily. The field team leader will review field results for compliance with established QA/QC criteria specified in this work plan and QAPP. Accuracy of field measurements will be assessed by calibrating field instruments daily and, when necessary, by performing field instrument performance checks (testing known solutions). Precision will be assessed by obtaining multiple instrument readings. Completeness will be evaluated by checking field notes to verify that appropriate measurements and frequency of measurements are performed and obtained.

6.10.2 Laboratory Measurements

The laboratory will be required to adhere to the accuracy, precision and completeness requirements established by the USEPA.

6.11 CORRECTIVE ACTIONS

The following subsections describe corrective actions for sample collection/field measurements and laboratory analyses. Nonconformance with established QC procedures outlined in this work plan will be identified and corrected. The project engineer/manager will be notified immediately of any nonconformance issue. The project engineer/manager will promptly report nonconformance to the project manager, who will discuss major problems with M.S. Kaplan representatives.

6.11.1 Sample Collection/Field Measurements

Technical staff and project personnel will be responsible for reporting all nonconformance issues to the project engineer/review team leader. The project engineer/review team leader will be responsible for assessing suspected problem(s), and deciding whether the problem(s) will affect data quality. Corrective actions for field measurements may include the following measures:

- Repeat measurements.
- Check for proper adjustments for ambient conditions, such as temperature.
- Check batteries.
- Check instrument calibrations.
- Recalibrate instrument.
- Replace or repair instrument or measurement device.
- Stop work.
- Contact and consult with project manager.

The project engineer/review team leader is responsible for controlling, tracking and implementing corrective actions. The project engineer/review team leader will inform the project manager of field changes.

6.11.2 Laboratory Analyses

If audits or data review results in detection of unacceptable data, the project manager will be responsible for developing and initiating corrective action, which may include the following measures:

- Re-analyzing soil samples if holding time criteria permit and adequate sample volumes exist.
- Re-sampling and analyzing groundwater.
- Evaluating and amending sampling and analytical procedures.
- Accepting data and acknowledging level of uncertainty.

6.12 QUALITY ASSURANCE REPORTS

Separate quality assurance reports will not be submitted. The monthly progress report(s) will summarize data quality information for data collected during field activities. Memoranda that address field activity results may be submitted to M.S. Kaplan c/o Joseph R. Podlewski, Jr.

* * * * *

7.0 REFERENCES

KRITT *Chicago Zoning Ordinance*, 1999.

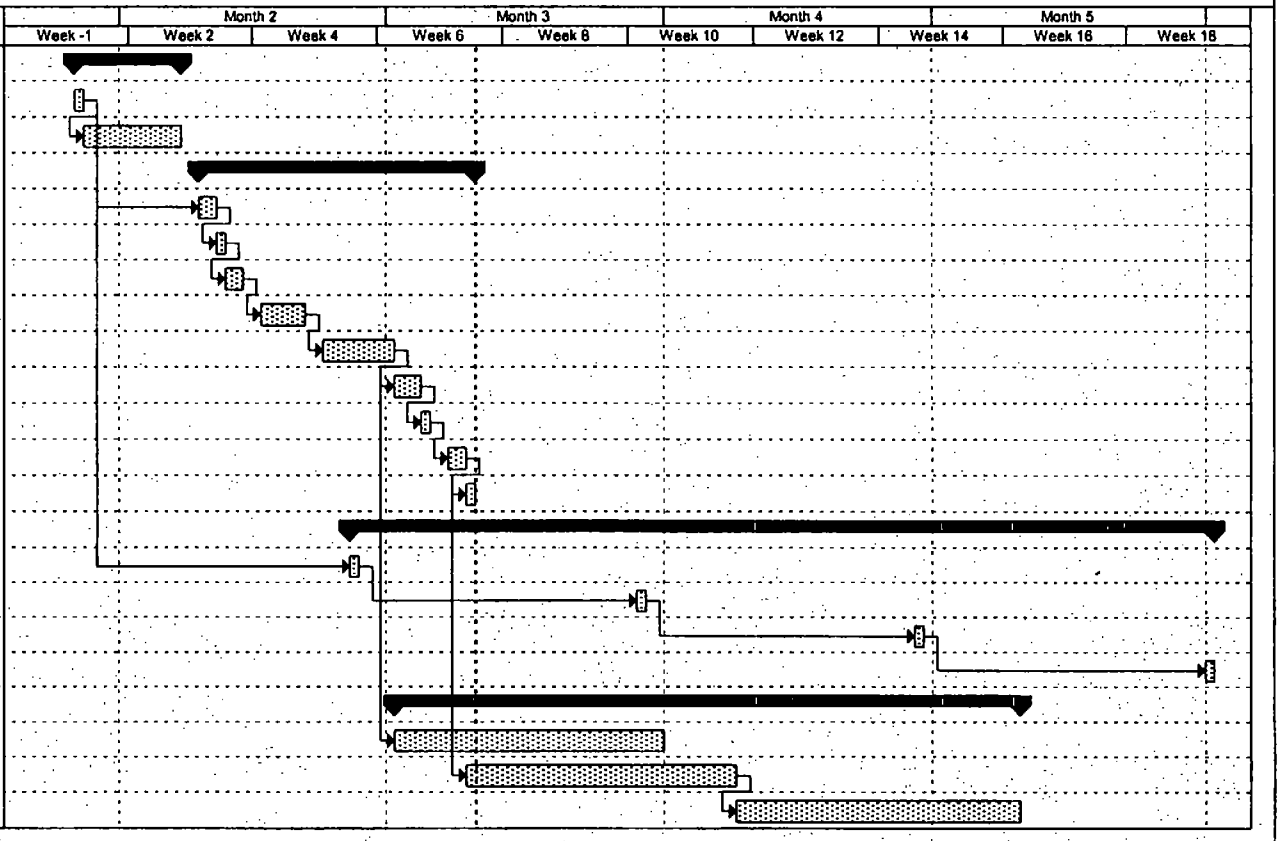
Burns & McDonnell Engineering Company, Inc. *Site Health and Safety Plan for J-Pitt Melt Shop Site*, June, 2001.

United States Environmental Protection Agency (USEPA). *Samplers and Sampling Procedures for Hazardous Waste Streams*, January 1980, EPA-600/2-80-018.

United States Environmental Protection Agency (USEPA). *Pollution Report for J-Pitt Melt Shop Site*, May 2, 2001

Proposed dule for
Work Plan Implementation
J. Pitt Melt Shop

ID	Task Name	Duration
1	**Regulatory Approval and Planning**	10 days
2	USEPA Approval of Work Plan	1 day
3	Project Planning	9 days
4	**Field Investigation**	23 days
5	Install and Maintain Boom	2 days
6	Initial Limited Site Survey	1 day
7	Radioactive Material Removal	2 days
8	Surface and Subsurface Soil Investigation	5 days
9	Drum Liquid Categorization for Removal	6 days
10	Test Pits for Oil-based Wastes	3 days
11	Investigate Pits, Sumps and Damaged Dry Goods	1 day
12	Investigate Baghouse Units/Slag Piles	2 days
13	Sample and Secure Suspect Asbestos	1 day
14	**Reporting**	69 days
15	Submit First Monthly Report	1 day
16	Submit Second Monthly Report	1 day
17	Submit Third Monthly Report	1 day
18	Submit Fourth Monthly Report	1 day
19	**Waste Disposal**	50 days
20	Dispose of Drum Liquids	22 days
21	Dispose of Bag House Dust	22 days
22	Additional Activities if Necessary	22 days



Project: Project Schedule
Date: Thu 10/11/01

Task
Split
Progress
Milestone
Summary
Rolled Up Task
Rolled Up Split
Rolled Up Milestone
Rolled Up Progress
External Tasks
Project Summary

Table 2
Sampling and Analysis Summary
J-Pitt Melt Shop

Scope of Area/Media	Quantity	Type	Analyses	Sampling Rational
Soil Floor/Surface Soil	12	Chemical	▪ Lead, Cadmium, Chromium	▪ To completely evaluate the ingestion pathway, across the site and evaluate any vertical variation within the soil by sampling within the first 6-inches below ground surface (bgs).
	1	Physical	▪ TOC—ASTM 2974-87 ▪ Soil pH—SW846 9040/9045	▪ The physical sample is intended establish site-specific remedial objectives in accordance with TACO, if needed.
Soil Floor/Subsurface Soil	3	Chemical	▪ Lead, Cadmium, Chromium	▪ To evaluate vertical extent of soil/dust in this area of the site, and evaluate any vertical variation within the soil by sampling within the first 12 feet below ground surface (bgs).
	1	Physical	▪ TOC—ASTM 2974-87 ▪ Soil pH—SW846 9040/9045	▪ The physical sample is intended establish site-specific remedial objectives in accordance with TACO, if needed.
Resinous Material Impact/Surface Soil	3	Chemical	▪ PCBs	▪ Horizontal extent of resinous material.
Resinous Material Impact/Test Pit	5	Chemical	▪ PCBs ▪ total petroleum hydrocarbons (TPH)	▪ To verify release of oil based waste apparently occuring from underneath the facility.

Two Baghouses/Soil and Dust Samples	2	Chemical	▪ full R-Code:
			  ▪ TCLP VOCs—ASTM 8260
			  ▪ TCLP SVOCs—ASTM 8270
			  ▪ TCLP metals
			  ▪ Total cyanide
			  ▪ Paint filter
			  ▪ Flashpoint
			  ▪ Reactive Sulfide
			  ▪ Percent Ash
			  ▪ Total Solids
			  ▪ Total phenols
			  ▪ Water reactivity
			  ▪ Soil pH
			▪ Extractable Organic Halogens (EOX)
				▪ Soil/dust samples for disposal characterization

Tab.
Sampling and Analysis Summary
J-Pitt Melt Shop

Scope of Area/Media	Quantity	Type	Analyses	Sampling Rational
Dust Piles/Soil Samples	3	Chemical	▪ Full R-Code ▪ EOX	▪ Dust samples from the suspect slag or electric arc furnace dust piles located outside the facility
Damaged Dry Goods/Soil Samples	2	Chemical	▪ full R-Code, ▪ EOX, ▪ F-Code Solvent Scan	▪ Soil/dust samples for disposal characterization
Drums/Liquid Samples	Field Screen each Drum	Chemical	▪ Field screen parameters include ▪ pH ▪ Air reactive ▪ Water reactive ▪ Oxidizer ▪ Cyanide ▪ Sulfide ▪ Radioactive ▪ Mercury ▪ Suspected perchloric ▪ Suspected picric ▪ Peroxides ▪ PCBs ▪ Laboratory analytical waste disposal charactization include ▪ Full R-Code ▪ select samples for: ▪ F-code solvent scan ▪ PCBs	▪ To assist in segregation into groups up to ten waste types. Once segregated, disposal characterization sampling will be performed and laboratory analyzed. The analysis will be based on specific disposal facility requirements.
Pits and Sumps /Surface Water Samples	6	Chemical	▪ PCBs ▪ Lead, Cadmium, and Chromium	▪ To investigate the extent of impacts related to prior usage of the site.

Table 3 PCBs – Method 8081A/8082 Analytical Detection Limits J-Pitt Melt Shop		
Compound	Method	Detection Limit Soil (mg/kg)
PCB-1016	SW 8082	0.25
PCB-1221		0.25
PCB-1232		0.25
PCB-1242		0.25
PCB-1248		0.25
PCB-1254		0.25
PCB-1260		0.25

Table 4 Metals Analytical Methods and Detection Limits J-Pitt Melt Shop			
Analyte	Method	Detection Limit	
		Water (mg/l)	Soil (mg/kg)
Cadmium	6010B	0.005	0.5
Chromium	6010B	0.040	2.0
Lead	7421	0.005	4.0

Table 5
TCL Volatile Organics – Method 8260
Analytical Detection Limits
J-Pitt Melt Shop

Parameter	CAS Number	Detection Limit	
		Water (mg/l)	Soil (mg/kg)
Acetone	67-64-1	0.010	0.1
Benzene	71-43-2	0.001	0.005
Bromodichloromethane	75-27-4	0.00002	0.01
Bromoform	75-25-2	0.00002	0.005
Bromomethane	74-83-9	0.001	0.01
2-Butanone	78-93-3	0.010	0.01
Carbon Disulfide	75-15-0	0.010	0.01
Carbon Tetrachloride	56-23-5	0.001	0.005
Chlorobenzene	108-90-7	0.001	0.005
Chloroethane	75-00-3	0.002	0.01
Chloroform	67-66-3	0.00002	0.005
Chloromethane	74-87-3	0.010	0.01
Dibromochloromethane	74-97-5	0.001	0.005
1,1-Dichloroethane	75-34-3	0.001	0.005
1,2-Dichloroethane	107-06-2	0.001	0.005
1,1-Dichloroethene	75-35-4	0.001	0.004
cis-1,2-Dichloroethene	156-59-2	0.001	0.004
trans-1,2-Dichloroethene	156-60-5	0.001	0.005
1,2-Dichloropropane	78-87-5	0.001	0.005
cis-1,3-Dichloropropene	10061-01-5	0.001	0.005
trans-1,3-Dichloropropene	10061-02-6	0.001	0.005
Ethylbenzene	100-41-4	0.001	0.005
2-Hexanone	591-78-6	0.010	0.01
Methylene Chloride	75-09-2	0.005	0.005
4-Methyl-2-Pentanone	108-10-2	0.010	0.01
Styrene	100-42-5	0.001	0.005
1,1,2,2-Tetrachloroethane	79-34-5	0.001	0.005
Tetrachloroethene	127-18-4	0.001	0.005
Toluene	108-88-3	0.001	0.005
1,1,1-Trichloroethane	71-55-6	0.001	0.005
1,1,2-Trichloroethane	79-00-5	0.001	0.005
Trichloroethene	79-01-6	0.001	0.005
Vinyl Chloride	75-01-4	0.001	0.01
Xylenes(total)	1330-20-7	0.001	0.005

Table 5 TCL Semivolatile Organics - Method 8270 Analytical Detection Limits J-Pitt Melt Shop			
Compound	CAS Number	Detection Limit	
		Water (mg/l)	Soil (mg/kg)
4-Chloro-3-methylphenol	59-50-7	0.010	0.33
2-Chlorophenol	95-57-8	0.010	0.33
2,4-Dichlorophenol	120-83-2	0.010	0.33
2,4-Dimethylphenol	105-67-9	0.010	0.33
2,4-Dinitrophenol	51-28-5	0.050	1.6
2-Methyl-4,6-dinitrophenol	534-52-1	0.050	1.6
2-Methylphenol(o-cresol)	95-48-7	0.010	0.33
4-Methylphenol(p-cresol)	106-44-5	0.010	0.33
2-Nitrophenol	88-75-5	0.010	0.33
4-Nitrophenol	100-02-7	0.050	1.6
Pentachlorophenol	87-86-5	0.050	1.6
Phenol	108-95-2	0.010	0.33
2,4,5-Trichlorophenol	95-95-4	0.010	0.33
2,4,6-Trichlorophenol	88-06-2	0.010	0.33
Benzylbutylphthalate	85-68-7	0.010	0.33
Bis(2-chloroethoxy)methane	111-91-1	0.010	0.33
Bis(2-chloroethyl)ether	111-44-4	0.010	0.33
2,2-oxybis-(1-Chloropropane)	108-60-1	0.010	0.33
Bis(2-ethylhexyl)phthalate	117-81-7	0.010	0.33
4-Bromophenyl phenyl ether	101-55-3	0.010	0.33
Carbazole	86-74-8	0.010	0.33
4-Chloroaniline	106-47-8	0.020	0.33
2-Chloroaphthalene	91-58-7	0.010	0.33
4-Chlorophenyl phenyl ether	7005-72-3	0.010	0.33
Dibenzofuran	132-64-9	0.010	0.33
Di-n-butyl-phthalate	86-74-2	0.010	0.33
1,2-Dichlorobenzene	95-50-1	0.010	0.33
1,3-Dichlorobenzene	541-73-1	0.010	0.33
1,4-Dichlorobenzene	106-46-7	0.010	0.33
3,3'-Dichlorobenzidine	91-94-1	0.020	0.66
Diethyl phthalate	84-66-2	0.010	0.33
Dimethyl phthalate	131-11-3	0.010	0.33
2,4-Dinitrotoluene	121-14-2	0.010	0.33
2,6-Dinitrotoluene	606-20-2	0.010	0.33
Di-n-octyl-phthalate	117-84-0	0.010	0.33
Hexachlorobenzene	118-74-1	0.010	0.33
Hexachlorobutadiene	87-68-3	0.010	0.33

Table 5 (continued)
TCL Semivolatile Organics – Method 8270
Analytical Detection Limits
Former Division Street MGP – Manna Site

Compound	CAS Number	Detection Limit	
		Water (mg/l)	Soil (mg/kg)
Hexachlorocyclopentadiene	77-47-4	0.010	0.33
Hexachloroethane	67-72-1	0.010	0.33
Isophorone	78-59-1	0.010	0.33
2-Methylnaphthalene	91-57-6	0.010	0.33
2-Nitroaniline	88-74-4	0.010	1.6
3-Nitroaniline	99-09-2	0.010	1.6
4-Nitroaniline	100-01-6	0.010	1.6
Nitrobenzene	98-95-3	0.010	0.33
N-Nitrosodimethylamine	86-30-6	0.010	0.33
N-Nitroso-di-n-propylamine	621-64-7	0.010	0.33
N-Nitrosodiphenylamine	86-30-6	0.010	0.33
1,2,4-Trichlorobenzene	120-82-1	0.010	0.33

Table 6
TCL Semivolatile Organics – Method 8270
Analytical Detection Limits
J. Pitt Melt Shop

Compound	CAS Number	Detection Limit	
		Water (mg/l)	Soil (mg/kg)
4-Chloro-3-methylphenol	59-50-7	0.010	0.33
2-Chlorophenol	95-57-8	0.010	0.33
2,4-Dichlorophenol	120-83-2	0.010	0.33
2,4-Dimethylphenol	105-67-9	0.010	0.33
2,4-Dinitrophenol	51-28-5	0.050	1.6
2-Methyl-4,6-dinitrophenol	534-52-1	0.050	1.6
2-Methylphenol(o-cresol)	95-48-7	0.010	0.33
4-Methylphenol(p-cresol)	106-44-5	0.010	0.33
2-Nitrophenol	88-75-5	0.010	0.33
4-Nitrophenol	100-02-7	0.050	1.6
Pentachlorophenol	87-86-5	0.050	1.6
Phenol	108-95-2	0.010	0.33
2,4,5-Trichlorophenol	95-95-4	0.010	0.33
2,4,6-Trichlorophenol	88-06-2	0.010	0.33
Benzylbutylphthalate	85-68-7	0.010	0.33
Bis(2-chloroethoxy)methane	111-91-1	0.010	0.33
Bis(2-chloroethyl)ether	111-44-4	0.010	0.33
2,2-oxybis-(1-Chloropropane)	108-60-1	0.010	0.33
Bis(2-ethylhexyl)phthalate	117-81-7	0.010	0.33
4-Bromophenyl phenyl ether	101-55-3	0.010	0.33
Carbazole	86-74-8	0.010	0.33
4-Chloroaniline	106-47-8	0.020	0.33
2-Chloroaphthalene	91-58-7	0.010	0.33
4-Chlorophenyl phenyl ether	7005-72-3	0.010	0.33
Dibenzofuran	132-64-9	0.010	0.33
Di-n-butyl-phthalate	86-74-2	0.010	0.33
1,2-Dichlorobenzene	95-50-1	0.010	0.33
1,3-Dichlorobenzene	541-73-1	0.010	0.33
1,4-Dichlorobenzene	106-46-7	0.010	0.33
3,3'-Dichlorobenzidine	91-94-1	0.020	0.66
Diethyl phthalate	84-66-2	0.010	0.33
Dimethyl phthalate	131-11-3	0.010	0.33
2,4-Dinitrotoluene	121-14-2	0.010	0.33
2,6-Dinitrotoluene	606-20-2	0.010	0.33
Di-n-octyl-phthalate	117-84-0	0.010	0.33
Hexachlorobenzene	118-74-1	0.010	0.33
Hexachlorobutadiene	87-68-3	0.010	0.33

Table 6 (continued) TCL Semivolatile Organics – Method 8270 Analytical Detection Limits J-Pitt Melt Shop			
Compound	CAS Number	Detection Limit	
		Water (mg/l)	Soil (mg/kg)
Hexachlorocyclopentadiene	77-47-4	0.010	0.33
Hexachloroethane	67-72-1	0.010	0.33
Isophorone	78-59-1	0.010	0.33
2-Methylnaphthalene	91-57-6	0.010	0.33
2-Nitroaniline	88-74-4	0.010	1.6
3-Nitroaniline	99-09-2	0.010	1.6
4-Nitroaniline	100-01-6	0.010	1.6
Nitrobenzene	98-95-3	0.010	0.33
N-Nitrosodimethylamine	86-30-6	0.010	0.33
N-Nitroso-di-n-propylamine	621-64-7	0.010	0.33
N-Nitrosodiphenylamine	86-30-6	0.010	0.33
1,2,4-Trichlorobenzene	120-82-1	0.010	0.33

Project Team Organizational Chart

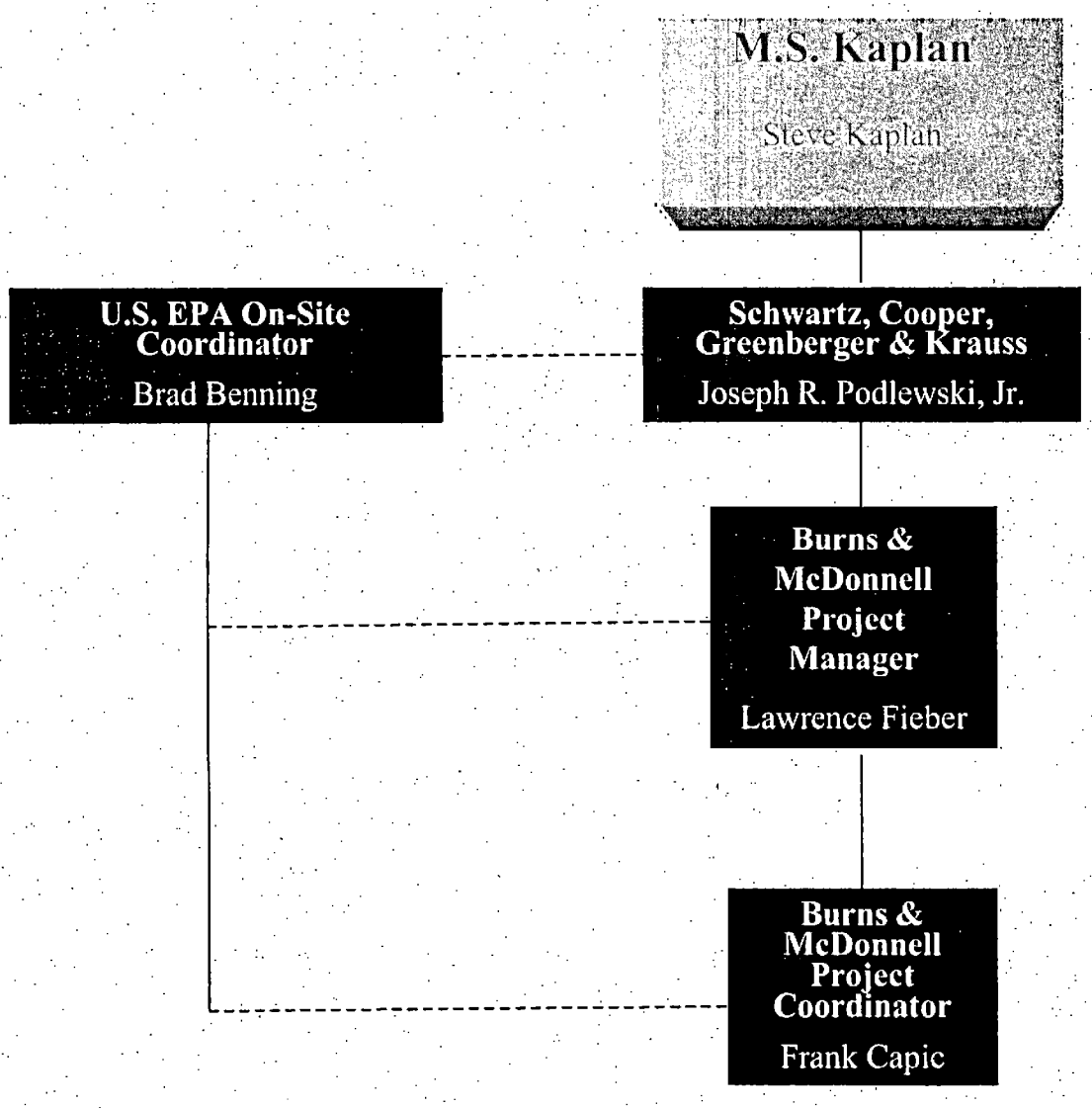


Figure 1

Site Investigation/Removal Action

J-Pitt Melt Shop

Figures 2, 3, and 5 are included in the Figures section of the final report.

Appendix A
U.S. EPA Previous Investigations

Appendix A is included in the Appendix A section of the final report.

Appendix B
Field Sampling Procedures for VOCs

POWERSTOP HANDLE™ SAMPLING PROCEDURE

1. **Load Sampling Device**
   Insert EasyDraw Syringe™ into the appropriate slot (5 or 10-gram heavy, 5 or 10-gram medium, 5 or 10-gram light or 13 gram position) on the Powerstop Handle™ device and remove end cap from syringe.

   EPA Method 5035 Recommended 5-gram slot positions:

   - Use the heavy position for dense clay
   - Use the light position for dry sandy soil
   - Use the medium position for all others.

2. **Collect Sample**
   Push EasyDraw Syringe™ into a freshly exposed surface of soil until the syringe is full. Continue pushing until the soil column inside the syringe has forced the plunger to the stopping pint. (**Note**: unlike other sample collection devices, there is no headspace air in the syringe to displace.)

   EasyDraw Syringe™ delivers approximately 5, 10, or 13 grams. Actual weight will be determined at the laboratory. No scale or balance required in the field.

3. **Eject Sample Into Vial**
   Remove the syringe from the Powerstop Handle™ device and insert the syringe into the open end of 40-ml vial, and eject sample into pre-tared vial by pushing on the syringe plunger. Avoid getting dirt on the threads of the 40-ml vial.

   Cap vial immediately and put on ice or in an environment maintained at 4°C. No preservation required if laboratory receives within 48 hours of sampling.
   Refill and cap syringe for dry weight and percent moisture determination.

Appendix B

Appendix B
Administrative Order by Consent (AOC)

DTH File C1

LAW OFFICES

SCHWARTZ, COOPER, GREENBERGER & KRAUSS

180 N. LaSalle Street, Suite 2700
Chicago, Illinois 60601
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E-Mail: jpodlewski@scgk.com

FAX TRANSMITTAL FORM

DATE: August 20, 2001

TO: Mr. Lawrence Fieber — **Fax No.:** 630/990-0301
Mr. Steve Kaplan — 708/756-0099

FROM: Joseph R. Podlewski, Esq.

TOTAL NUMBER OF PAGES (including cover sheet): - 23 -

SCG&K Client Number: 49402/12483

Please call (312) 346-1300 if you experience trouble with this transmission and ask for Eloise Dotson.

COMMENTS:

SCHWARTZ COOPER
SCGK
GREENBERGER KRAUSS
Joseph R. Podlewski
Direct: 312.516.4445
jpodlewski@scgk.com

August 20, 2001

VIA TELECOPY 630/990-0301
AND REGULAR MAIL
Mr. Lawrence Fieber
Burns & McDonald
2601 West 22nd Street
Oak Brook, Illinois 60523-1229

Re: In Re: J. Pitt Melt Shop Site,
US EPA Region 5 Docket No. V-W-01-C-653

Dear Lawrence:

Enclosed is a copy of the fully executed Administrative Order by Consent ("AOC") in the above-referenced case, along with an August 7, 2001 cover letter from the US EPA to me and Ms. Morakalis of the Metropolitan Water Reclamation District.

Pursuant to Section V of the AOC, the Work Plan and the Health & Safety Plan are to be submitted to the US EPA within ten (10) business days after the effective date of the Order. Although the Order was signed on August 3, 2001, pursuant to Section XIX, it is not effective until it is received by the respondents. The envelope containing the AOC was post-marked August 8, 2001 and was not received by us until August 14, 2001. Consequently, the Work Plan and Health & Safety Plan are due on or before August 28, 2001.

Please call me if you have any questions.

Very truly yours,

SCHWARTZ, COOPER, GREENBERGER & KRAUSS, CHTD.

Joseph R. Podlewski

JRP:cd
Enclosure
cc: Mr. Steve Kaplan

Law Offices:
180 North LaSalle Street
Suite 2700
Chicago, Illinois 60601
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

AUG 7 2001

REPLY TO THE ATTENTION OF

J-Pitt Melt Shop Site

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Schwartz, Cooper, Greenberger & Krauss
180 North LaSalle Street
Suite 2700
Chicago, Illinois 60601
ATTENTION: Mr. Joseph R. Podlewski, Jr.

Metropolitan Water Reclamation District
of Greater Chicago
100 East Erie Street
Chicago, IL 60611-2803
ATTENTION: Ms. Susan T. Morakalis, Senior Assistant Attorney

Re: J. Pitt Melt Shop Site, Chicago, Illinois
Administrative Order by Consent

Dear Sir or Madam:

Enclosed please find an executed copy of the Administrative Order by Consent issued for the J-Pitt Melt Shop Site in Chicago, Illinois, pursuant to Sections 106 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §§9606 and 9622. Thank you for your cooperation in this matter.

If you have any questions regarding this Order, please contact Stuart Hersh, Associate Regional Counsel, at (312) 886-6235 or Brad Benning, On-Scene Coordinator, at (312) 353-7613.

Sincerely yours,

Richard C Karl for

William E. Muno, Director
Superfund Division

Enclosure

cc: Gary King, Illinois Environmental Protection Agency

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

IN THE MATTER OF:	)	Docket No. V-W-'01-C-653
	)	
J-Pitt Melt Shop Site	)	ADMINISTRATIVE ORDER BY
Chicago, Illinois	)	CONSENT PURSUANT TO
	)	SECTION 106 OF THE
Respondents:	)	COMPREHENSIVE
Metropolitan Water Reclamation District	)	ENVIRONMENTAL RESPONSE,
of Greater Chicago	)	COMPENSATION, AND
and	)	LIABILITY ACT OF 1980,
M. S. Kaplan Company	)	as amended, 42 U.S.C. §9606(a)

I. JURISDICTION AND GENERAL PROVISIONS

This Order is entered voluntarily by the United States Environmental Protection Agency ("U.S. EPA") and the Respondents. The Order is issued pursuant to the authority vested in the President of the United States by Sections 106(a), 107, and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended ("CERCLA"), 42 U.S.C. §§9606(a), 9607 and 9622. This authority has been delegated to the Administrator of the U.S. EPA by Executive Order No. 12580, January 23, 1987, 52 Fed. Reg. 2923, and further delegated to the Regional Administrators by U.S. EPA Delegation Nos. 14-14-A, 14-14-C and 14-14-D, and to the Director, Superfund Division, Region 5, by Regional Delegation Nos. 14-14-A, 14-14-C and 14-14-D.

This Order provides for performance of removal actions and reimbursement of response costs incurred by the United States in connection with property located at 3151 S. California Avenue, Chicago, Illinois (the "J-Pitt Melt Shop Site" or the "Site"). This Order requires the Respondents to conduct removal actions described herein to abate an imminent and substantial endangerment to the public health, welfare or the environment that may be presented by the actual or threatened release of hazardous substances at or from the Site.

A copy of this Order will also be provided to the State of Illinois, which has been notified of the issuance of this Order pursuant to Section 106(a) of CERCLA, 42 U.S.C. §9606(a).

Respondents' participation in this Order shall not constitute an admission of liability or of U.S. EPA's findings or determinations contained in this Order except in a proceeding to enforce the terms of this Order. Respondents agree to comply with and be bound by the terms of this Order. Respondents further agree that they will not contest the basis or validity of this Order or its terms.

II. PARTIES BOUND

This Order applies to and is binding upon U.S. EPA, and upon Respondents and Respondents' heirs, receivers, trustees, successors and assigns. Any change in ownership or corporate status of Respondents including, but not limited to, any transfer of assets or real or personal property shall not alter Respondents' responsibilities under this Order. Respondents are jointly and severally liable for carrying out all activities required by this Order. Compliance or noncompliance by one or more Respondent with any provision of this Order shall not excuse or justify noncompliance by any other Respondent.

Respondents shall ensure that their contractors, subcontractors, and representatives comply with this Order. Respondents shall be responsible for any noncompliance with this Order.

III. FINDINGS OF FACT

Based on available information, including the Administrative Record in this matter, U.S. EPA finds that:

1. The J-Pitt Melt Shop Site is at 3151 S. California Avenue in Chicago, Illinois. The Site is bordered to the north by a railroad, to the south by the Chicago Sanitary and Ship Canal, to the east by a scrap yard, and to the west by other industrial and commercial operations.

2. The Metropolitan Water Reclamation District of Greater Chicago (MWRDGC), formerly known as the Metropolitan Sanitary District, has owned the Site since at least the early 1900s.

3. In 1918, MWRDGC and Ketler-Elliott Erection Co. entered into a 99-yr. lease of the Site property. In 1923, this lease was assigned to Hansell-Elcock Company. In 1961, Hansell-Elcock Company assigned the lease to California Auto Reclamation Co., more than 50% of which was owned by M.S. Kaplan.

4. Various companies have subleased the Site to process steel, most recently J-Pitt Melt Shop, Inc., which produced steel billet and blooms from scrap steel. J-Pitt Melt Shop, Inc., incorporated in Illinois in 1994 and involuntarily dissolved in 1998. In 1997, its parent company filed a voluntary petition in U.S. Bankruptcy Court, Western District of Pennsylvania, under Chapter 11 of the U.S. Bankruptcy Act. The case was dismissed in 1999.

5. Operations at the Site ceased in approximately 1996.

6. On April 5, the City of Chicago Department of Environment (CDE) discovered artillery shells at the Site. CDE also observed oil releasing into the Chicago Sanitary and Ship Canal. CDE requested and received the assistance of the U.S. Army to address the munitions and also referred the Site to U.S. EPA. U.S. EPA initiated an emergency response because of the

immediate threat to human health and the environment.

7. U.S. EPA deployed a boom along the southern edge of the facility to contain the flow of released oil into the Chicago Sanitary and Ship Canal and conducted assessment activities at the Site. U.S. EPA's assessment is that the J-Pitt facility covers an area of approximately 6 acres, with predominant physical features of a building approximately 800 feet by 300 feet with three main sections: the furnace area along the banks of the canal, the billet finishing area in the middle, and the office/maintenance/receiving area to the north. Hazardous substances located within the facility included: resinous material, containing 54,000 ppm of PCBs, spilled from a capacitor on the floor; electric arc furnace dust (K061) located in baghouses within and outside the facility; lead, chromium, and cadmium in dust and ash primarily in the furnace and billet finishing areas; drums and containers with acids, caustics, oils, and solvents located throughout the facility; Cesium-137 in mold level control devices; and friable pipe insulation. The facility had significant vandalism due to numerous openings through the walls, and the front gate that was not secure. CDE provided board-up services along the west side of the facility, but large openings remain along the canal and the east end leaving the Site vulnerable to future trespassing and vandalism.

8. In a conference call on April 6, 2001, U.S. EPA issued general notice of potential liability to potentially responsible parties (PRPs) MWRDGC and M. S. Kaplan Company. On April 10, M. S. Kaplan Company responded that it would perform work necessary to abate the release, or threat of release, of certain hazardous substances at the Site. MWRDGC also responded that it would agree to fund all of U.S. EPA's currently anticipated actions required to abate the release or threat of release from the Site.

IV. CONCLUSIONS OF LAW AND DETERMINATIONS

Based on the Findings of Fact set forth above, and the Administrative Record supporting these removal actions, U.S. EPA has determined that:

1. The J-Pitt Melt Shop Site is a "facility" as defined by Section 101(9) of CERCLA, 42 U.S.C. §9601(9).

2. PCBs, electric arc furnace dust (K061), lead, chromium, and cadmium, acids and caustics, Cesium-137, and friable asbestos are "hazardous substances" as defined by Section 101(14) of CERCLA, 42 U.S.C. §9601(14).

3. Each Respondent is a "person" as defined by Section 101(21)of CERCLA, 42 U.S.C. §9601(21).

4. Respondents are the present "owners" of the Site, as defined by Section 101(20) of CERCLA, 42 U.S.C. §9601(20). Each Respondent therefore may be liable under Section 107(a)

of CERCLA, 42 U.S.C. §9607(a).

5. The conditions described in the Findings of Fact above constitute an actual or threatened "release" of a hazardous substance from the facility into the "environment" as defined by Sections 101(8) and (22) of CERCLA, 42 U.S.C. §§9601(8) and (22).

6. The conditions present at the Site constitute a threat to public health, welfare, or the environment based upon the factors set forth in Section 300.415(b)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan, as amended ("NCP"), 40 C.F.R. §300.415(b)(2). These factors include, but are not limited to, the following:

a. Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances, pollutants or contaminants;

This factor is present at the Site due to the observed release of an oil-based waste into the Chicago Sanitary and Ship Canal, the lack of a security fence that would minimize the risk of potential exposure to animals and humans, and the existence of containers, including approximately one hundred twenty-four 55-gallon drums, thirty-seven 25-gallon and 5-gallon drums, and approximately 150 small containers of various chemicals and oils, located in the northern portion of the facility with potential exposures to nitric acid, hydrofluoric acid, hydrochloric acid, caustics, and solvents. Radioactive sources containing Cesium-137, located in the middle section of the facility, pose a radiation hazard to humans and animals. Pieces of pipe insulation have fallen to the floor, are friable, and may be asbestos. Resinous material, containing 54,000 ppm of PCBs, appeared to have spilled from a capacitor. Two baghouse units, one located inside the facility and the other outside along the canal, likely contain electric arc furnace dust (K061), a listed hazardous waste. Dust and ash observed on the floor, primarily in the furnace and billet finishing areas, contain elevated levels of lead (854 ppm), cadmium (600 ppm detected by x-ray fluorescence), and chromium (1,310 ppm). Raw products on site are granular and powders containing silicates, which pose an inhalation hazard.

b. Actual or potential contamination of drinking water supplies or sensitive ecosystems;

This factor is present at the Site due to the existence of an ongoing release of an oil-based waste to the canal along the Site's southern perimeter. The source appears to be from under the building structure in the vicinity of the electrical switch room. The large amount of dust and ash in the furnace area adjacent to the canal poses an additional source of contaminants to surface waters.

c. Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release;

This factor is present at the Site due to the existence of numerous containers abandoned throughout the facility. Many containers are in poor condition resulting in spills throughout the facility; cubic-yard sacks and pallets of bags have broken open and released their contents. Hazardous substances observed include nitric acid, hydrofluoric acid, hydrochloric acid, caustics, various solvents and oils. The sixteen baghouse silos potentially contain electric arc furnace dust (K061), a listed hazardous waste. Resinous material, containing 54,000 ppm of PCBs, appeared to have spilled from a capacitor.

d. High levels of hazardous substances or pollutants or contaminants in soils, largely at or near the surface, that may migrate;

This factor is present at the Site due to the existence of dust, ash, and debris located in the southeast section of the facility which appeared to be the scrap steel storage area. Based on the current conditions in this area, the nature of the floor could not be determined; the area may not have a concrete base. Contaminants potentially could impact soils in this area.

e. Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;

This factor is present at the Site due to the existence of numerous contaminants inside the facility which potentially could migrate due to structural issues with the building. Wind and precipitation events may allow contaminants to enter the canal and impact the surrounding area. Contaminants currently being retained by the sorbent boom in the canal may be released due to a significant precipitation event.

f. Threat of fire or explosion;

This factor is present at the Site due to the existence of flammable liquids and gases which were present inside the facility.

The actual or threatened release of hazardous substances from the Site may present an imminent and substantial endangerment to the public health, welfare, or the environment within the meaning of Section 106(a) of CERCLA, 42 U.S.C. §9606(a).

The removal actions required by this Order, if properly performed under the terms of this Order, are consistent with the NCP. The removal actions required by this Order are necessary to protect the public health, welfare, or the environment.

V. ORDER

Based upon the foregoing Findings of Fact, Conclusions of Law and Determinations, it is hereby

ordered and agreed that Respondents shall comply with the following provisions, including but not limited to all documents attached to or incorporated into this Order, and perform the following actions:

1. Designation of Contractor, Project Coordinator, and On-Scene Coordinator

Respondents shall perform the removal actions required by this Order themselves or retain a contractor to implement the removal actions. Respondents shall notify U.S. EPA of Respondents' qualifications or the name and qualifications of such contractor, whichever is applicable, within 5 business days of the effective date of this Order. Respondents shall also notify U.S. EPA of the name and qualifications of any other contractors or subcontractors retained to perform work under this Order at least 5 business days prior to commencement of such work. U.S. EPA retains the right to disapprove of the Respondents or any of the contractors and/or subcontractors retained by the Respondents. If U.S. EPA disapproves a selected contractor, Respondents shall retain a different contractor within 5 business days following U.S. EPA's disapproval and shall notify U.S. EPA of that contractor's name and qualifications within 6 business days of U.S. EPA's disapproval.

Within 5 business days after the effective date of this Order, the Respondents shall designate a Project Coordinator who shall be responsible for administration of all the Respondents' actions required by the Order. Respondents shall submit the designated coordinator's name, address, telephone number, and qualifications to U.S. EPA. To the greatest extent possible, the Project Coordinator shall be present on-site or readily available during site work. U.S. EPA retains the right to disapprove of any Project Coordinator named by the Respondents. If U.S. EPA disapproves a selected Project Coordinator, Respondents shall retain a different Project Coordinator within 3 business days following U.S. EPA's disapproval and shall notify U.S. EPA of that person's name and qualifications within 4 business days of U.S. EPA's disapproval. Receipt by Respondents' Project Coordinator of any notice or communication from U.S. EPA relating to this Order shall constitute receipt by all Respondents. U.S. EPA will also send a copy of all Agency correspondence it sends to the Respondents' Project Coordinator to: Susan Morakalis, Senior Assistant Attorney, MWRDGC, 100 East Erie Street, Chicago, Illinois 60611-2803; and to Joseph R. Podlewski, Jr., Rosenthal and Schanfield, 46th floor, 55 East Monroe Street, Chicago, Illinois 60603-5855.

The U.S. EPA has designated Bradley Benning of the Emergency Response Branch, Region 5, as its On-Scene Coordinator ("OSC"). Respondents shall direct all submissions required by this Order to the OSC at U.S. Environmental Protection Agency, 77 West Jackson Boulevard, SE-5J, Chicago, IL 60604-3590 by certified or express mail. Respondents shall also send a copy of all submissions to Stuart Hersh, Associate Regional Counsel, 77 West Jackson Boulevard, C-14J, Chicago, Illinois, 60604-3590. All Respondents are encouraged to make their submissions to U.S. EPA on recycled paper (which includes significant post-consumer waste paper content where possible) and using two-sided copies.

U.S. EPA and Respondents shall have the right, subject to the immediately preceding paragraph, to change their designated OSC or Project Coordinator. U.S. EPA shall notify the Respondents, and Respondents shall notify U.S. EPA, as early as possible before such a change is made, but in no case less than 24 hours before such a change. The initial notification may be made orally, but it shall be promptly followed by a written notice.

2. Work to Be Performed

Respondents shall perform, at a minimum, the following removal actions:

a. Develop and implement a site-specific work plan including a proposed time line;

b. Develop and implement a site-specific health and safety plan;

c. Provide site security measures which may include, but not be limited to, security guard service, fencing, and board-up services;

d. Stage, sample, and secure all Site wastes and residual materials, including but not limited to, wastes and materials in or from:

(1) All 55-gallon. drums and smaller containers;
(2) Bagh[illegible]se;
(3) Pits, sumps, and tanks;
(4) Bagged waste;
(5) Radioactive materials; and
(6) Friable asbestos from pipe wrap and other sources.

e. Overpack and secure leaking and deteriorated drums and other containers;

f. Conduct compatibility testing on liquids, sludges, solids, and other hazardous waste and substances;

g. Evaluate soils, dust, ash, and debris, and determine appropriate methods for stabilization and/or disposal, if necessary.

h. Develop and implement disposal arrangements for all radiation sources and contaminated debris;

i. Secure and investigate the source of oil released to the Chicago Sanitary and Ship Canal;

j. Arrange and effect transportation and disposal of all hazardous wastes, pollutants, and contaminants at a U.S. EPA-approved disposal facility.

k. Perform other actions to investigate contamination on the property that U.S. EPA may determine to be necessary;

l. Take any response action to address any release or threatened release of a hazardous substance, pollutant, or contaminant which U.S. EPA determines may pose an imminent and substantial endangerment to the public health or the environment.

2.1 Work Plan and Implementation

Within 10 business days after the effective date of this Order, the Respondents shall submit to U.S. EPA for approval a draft Work Plan for performing the removal activities set forth above. The draft Work Plan shall provide a description of, and an expeditious schedule for, the actions required by this Order.

U.S. EPA may approve, disapprove, require revisions to, or modify the draft Work Plan. If U.S. EPA requires revisions, Respondents shall submit a revised draft Work Plan within 7 business days of receipt of U.S. EPA's notification of required revisions. Respondents shall implement the Work Plan as finally approved in writing by U.S. EPA in accordance with the schedule approved by U.S. EPA. Once approved, or approved with modifications, the Work Plan, the schedule, and any subsequent modifications shall be fully enforceable under this Order. Respondents shall notify U.S. EPA at least 48 hours prior to performing any on-site work pursuant to the U.S. EPA approved Work Plan. Respondents shall not commence or undertake any removal actions at the Site without prior U.S. EPA approval.

2.2 Health and Safety Plan

Within 10 business days after the effective date of this Order, the Respondents shall submit for U.S. EPA review and comment a plan that ensures the protection of the public health and safety during performance of on-site work under this Order. This plan shall comply with applicable Occupational Safety and Health Administration ("OSHA") regulations found at 29 C.F.R. Part 1910. If U.S. EPA determines it is appropriate, the plan shall also include contingency planning. Respondents shall incorporate all changes to the plan recommended by U.S. EPA, and implement the plan during the pendency of the removal action.

2.3 Quality Assurance and Sampling

All sampling and analyses performed pursuant to this Order shall conform to U.S. EPA direction, approval, and guidance regarding sampling, quality assurance/quality control ("QA/QC"), data validation, and chain of custody procedures. Respondents shall ensure that the laboratory used to perform the analyses participates in a QA/QC program that complies with U.S. EPA guidance.

Upon request by U.S. EPA, Respondents shall have such a laboratory analyze samples submitted by U.S. EPA for quality assurance monitoring. Respondents shall provide to U.S. EPA the

QA/QC procedures followed by all sampling teams and laboratories performing data collection and/or analysis. Respondents shall also ensure provision of analytical tracking information consistent with OSWER Directive No. 9240.0-2B, "Extending the Tracking of Analytical Services to PRP-Lead Superfund Sites."

Upon request by U.S. EPA, Respondents shall allow U.S. EPA or its authorized representatives to take split and/or duplicate samples of any samples collected by Respondents or their contractors or agents while performing work under this Order. Respondents shall notify U.S. EPA not less than 3 business days in advance of any sample collection activity. U.S. EPA shall have the right to take any additional samples that it deems necessary.

2.4 Post-Removal Site Control

In accordance with the Work Plan schedule, or as otherwise directed by the OSC, Respondents shall submit a proposal for post-removal site control, consistent with Section 300.415(l) of the NCP, 40 C.F.R. §300.415(l), and OSWER Directive 9360.2-02. Upon U.S. EPA approval, Respondents shall implement such controls and shall provide U.S. EPA with documentation of all post-removal site control arrangements.

2.5 Reporting

Respondents shall submit a monthly written progress report to U.S. EPA concerning actions undertaken pursuant to this Order, beginning 30 calendar days after the date of U.S. EPA's approval of the Work Plan, until termination of this Order, unless otherwise directed in writing by the OSC. These reports shall describe all significant developments during the preceding period, including the work performed and any problems encountered, analytical data received during the reporting period, and developments anticipated during the next reporting period, including a schedule of work to be performed, anticipated problems, and planned resolutions of past or anticipated problems.

Any Respondent that owns any portion of the Site shall, at least 30 days prior to the conveyance of any interest in real property at the Site, give written notice of this Order to the transferee and written notice of the proposed conveyance to U.S. EPA and the State. The notice to U.S. EPA and the State shall include the name and address of the transferee. The party conveying such an interest shall require that the transferee will provide access as described in Section V.3 (Access to Property and Information).

2.6 Final Report

Within 60 calendar days after completion of all removal actions required under this Order, the Respondents shall submit for U.S. EPA review a final report summarizing the actions taken to comply with this Order. The final report shall conform to the requirements set forth in Section 300.165 of the NCP, 40 C.F.R. §300.165. The final report shall also include a good faith

estimate of total costs incurred in complying with the Order, a listing of quantities and types of materials removed off-site or handled on-site, a discussion of removal and disposal options considered for those materials, a listing of the ultimate destinations of those materials, a presentation of the analytical results of all sampling and analyses performed, and accompanying appendices containing all relevant documentation generated during the removal action (e.g., manifests, invoices, bills, contracts, and permits).

The final report shall also include the following certification signed by a person who supervised or directed the preparation of that report:

> Under penalty of law, I certify that, to the best of my knowledge, after appropriate inquiries of all relevant persons involved in the preparation of this report, the information submitted is true, accurate, and complete.

3. Access to Property and Information

Respondents shall provide or obtain access to the Site and off-site areas to which access is necessary to implement this Order, and shall provide access to all records and documentation related to the conditions at the Site and the actions conducted pursuant to this Order. Such access shall be provided to U.S. EPA employees, contractors, agents, consultants, designees, representatives, and State of Illinois representatives. These individuals shall be permitted to move freely at the Site and appropriate off-site areas in order to conduct actions which U.S. EPA determines to be necessary. Respondents shall submit to U.S. EPA, upon request, the results of all sampling or tests and all other data generated by Respondents or their contractor, or on the Respondents' behalf during implementation of this Order.

Where work under this Order is to be performed in areas owned by or in possession of someone other than Respondents, Respondents shall use their best efforts to obtain all necessary access agreements within 14 calendar days after the effective date of this Order, or as otherwise specified in writing by the OSC. Respondents shall immediately notify U.S. EPA if, after using their best efforts, they are unable to obtain such agreements. Respondents shall describe in writing their efforts to obtain access. U.S. EPA may then assist Respondents in gaining access, to the extent necessary to effectuate the response actions described herein, using such means as U.S. EPA deems appropriate. Respondents shall reimburse U.S. EPA for all costs and attorneys fees incurred by the United States in obtaining such access.

4. Record Retention, Documentation, Availability of Information

Respondents shall preserve all documents and information, in their possession or the possession of their contractors, subcontractors or representatives, relating to work performed under this Order, or relating to the hazardous substances found on or released from the Site, for 6 years following completion of the removal actions required by this Order. At the end of this 6-year period and at least 60 days before any document or information is destroyed, Respondents shall

notify U.S. EPA that such documents and information are available to U.S. EPA for inspection, and upon request, shall provide the originals or copies of such documents and information to U.S. EPA. In addition, Respondents shall provide documents and information retained under this Section at any time before expiration of the 6-year period at the written request of U.S. EPA. Any information that Respondents are required to provide or maintain pursuant to this Order is not subject to the Paperwork Reduction Act of 1995, 44 U.S.C. §3501 et seq.

5. Off-Site Shipments

All hazardous substances, pollutants or contaminants removed off-site pursuant to this Order for treatment, storage or disposal shall be treated, stored, or disposed of at a facility in compliance, as determined by U.S. EPA, with the U.S. EPA Off-Site Rule, 40 C.F.R. §300.440, 58 Fed. Reg. 49215 (Sept. 22, 1993).

6. Compliance With Other Laws

Respondents shall perform all actions required pursuant to this Order in accordance with all applicable local, state, and federal laws and regulations except as provided in Section 121(e) of CERCLA, 42 U.S.C. §9621(e), and 40 C.F.R. §300.415(j). In accordance with 40 C.F.R. §300.415(j), all on-site actions required pursuant to this Order shall, to the extent practicable, as determined by U.S. EPA, considering the exigencies of the situation, attain applicable or relevant and appropriate requirements under federal environmental or state environmental or facility siting laws.

7. Emergency Response and Notification of Releases

If any incident, or change in Site conditions, during the activities conducted pursuant to this Order causes or threatens to cause an additional release of hazardous substances from the Site or an endangerment to the public health, welfare, or the environment, the Respondents shall immediately take all appropriate action to prevent, abate or minimize such release or endangerment caused or threatened by the release. Respondents shall also immediately notify the OSC or, in the event of his/her unavailability, shall notify the Regional Duty Officer, Emergency Response Branch, Region 5 at (312) 353-2318, of the incident or Site conditions. If Respondents fail to respond, U.S. EPA may respond to the release or endangerment and reserve the right to recover costs associated with that response.

Respondents shall submit a written report to U.S. EPA within 7 business days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. Respondents shall also comply with any other notification requirements, including those in Section 103 of CERCLA, 42 U.S.C. §9603, and Section 304 of the Emergency Planning and Community Right-To-Know Act, 42 U.S.C. §11004.

VI. AUTHORITY OF THE U.S. EPA ON-SCENE COORDINATOR

The OSC shall be responsible for overseeing the implementation of this Order. The OSC shall have the authority vested in an OSC by the NCP, including the authority to halt, conduct, or direct any work required by this Order, or to direct any other response action undertaken by U.S. EPA or Respondents at the Site. Absence of the OSC from the Site shall not be cause for stoppage of work unless specifically directed by the OSC.

VII. REIMBURSEMENT OF COSTS

Respondents shall pay all past response costs and oversight costs of the United States related to the Site that are not inconsistent with the NCP. As soon as practicable after the effective date of this Order, U.S. EPA will send Respondents a bill for "past response costs" at the Site. U.S. EPA's bill will include an Itemized Cost Summary. "Past response costs" are all costs, including, but not limited to, direct and indirect costs and interest, that the United States, its employees, agents, contractors, consultants, and other authorized representatives incurred and paid with regard to the Site prior to the date through which the Itemized Cost Summary runs.

In addition, U.S. EPA will send Respondents a bill for "oversight costs" on an annual basis. "Oversight costs" are all costs, including, but not limited to, direct and indirect costs, that the United States incurs in reviewing or developing plans, reports and other items pursuant to this AOC.

"Oversight costs" shall also include all costs, including direct and indirect costs, paid by the United States in connection with the Site between the date through which the U.S. EPA's Itemized Cost Summary for "past response costs" ran and the effective date of this AOC.

Respondents shall, within 30 calendar days of receipt of a bill, remit a cashier's or certified check for the amount of the bill made payable to the "Hazardous Substance Superfund," to the following address:

U.S. Environmental Protection Agency
Program Accounting & Analysis Section
P.O. Box 70753
Chicago, Illinois 60673

Respondents shall simultaneously transmit a copy of the check to the Director, Superfund Division, U.S. EPA Region 5, 77 West Jackson Blvd., Chicago, Illinois, 60604-3590. Payments shall be designated as "Response Costs - J-Pitt Melt Shop Site" and shall reference the payers' name and address, the U.S. EPA site identification number (B5Y2), and the docket number of this Order.

In the event that any payment is not made within the deadlines described above, Respondents shall pay interest on the unpaid balance. Interest is established at the rate specified in Section 107(a) of CERCLA, 42 U.S.C. §9607(a). The interest shall begin to accrue on the date of the Respondents' receipt of the bill or for past response costs, 30 days after the effective date of this Order, if Respondents receive a bill prior to the effective date of this Order. Interest shall accrue at the rate specified through the date of the payment. Payments of interest made under this paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondents' failure to make timely payments under this Section.

Respondents may dispute all or part of a bill for Oversight costs submitted under this Order, if Respondents allege that U.S. EPA has made an accounting error, or if Respondents allege that a cost item is inconsistent with the NCP.

If any dispute over costs is resolved before payment is due, the amount due will be adjusted as necessary. If the dispute is not resolved before payment is due, Respondents shall pay the full amount of the uncontested costs into the Hazardous Substance Fund as specified above on or before the due date. Within the same time period, Respondents shall pay the full amount of the contested costs into an interest-bearing escrow account. Respondents shall simultaneously transmit a copy of both checks to the OSC. Respondents shall ensure that the prevailing party or parties in the dispute shall receive the amount upon which they prevailed from the escrow funds plus interest within 20 calendar days after the dispute is resolved.

VIII. DISPUTE RESOLUTION

The parties to this Order shall attempt to resolve, expeditiously and informally, any disagreements concerning this Order.

If the Respondents object to any U.S. EPA action taken pursuant to this Order, including billings for response costs, the Respondents shall notify U.S. EPA in writing of their objections within 10 calendar days of such action, unless the objections have been informally resolved. This written notice shall include a statement of the issues in dispute, the relevant facts upon which the dispute is based, all factual data, analysis or opinion supporting Respondents' position, and all supporting documentation on which such party relies. U.S. EPA shall submit its Statement of Position, including supporting documentation, no later than 10 calendar days after receipt of the written notice of dispute. In the event that these 10-day time periods for exchange of written documents may cause a delay in the work, they shall be shortened upon, and in accordance with, notice by U.S. EPA. The time periods for exchange of written documents relating to disputes over billings for response costs may be extended at the sole discretion of U.S. EPA.

An administrative record of any dispute under this Section shall be maintained by U.S. EPA. The record shall include the written notification of such dispute, and the Statement of Position served pursuant to the preceding paragraph. Upon review of the administrative record, the

Director of the Superfund Division, U.S. EPA Region 5, shall resolve the dispute consistent with the NCP and the terms of this Order.

Respondents' obligations under this Order shall not be tolled by submission of any objection for dispute resolution under this Section. Following resolution of the dispute, as provided by this Section, Respondents shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with U.S. EPA's decision, whichever occurs.

IX. FORCE MAJEURE

Respondents agree to perform all requirements under this Order within the time limits established under this Order, unless the performance is delayed by a force majeure. For purposes of this Order, a force majeure is defined as any event arising from causes beyond the control of Respondents or of any entity controlled by Respondents, including but not limited to their contractors and subcontractors, that delays or prevents performance of any obligation under this Order despite Respondents' best efforts to fulfill the obligation. Force majeure does not include financial inability to complete the work or increased cost of performance.

Respondents shall notify U.S. EPA orally within 24 hours after Respondents become aware of any event that Respondents contend constitutes a force majeure, and in writing within 7 calendar days after the event. Such notice shall: identify the event causing the delay or anticipated delay; estimate the anticipated length of delay, including necessary demobilization and re-mobilization; state the measures taken or to be taken to minimize the delay; and estimate the timetable for implementation of the measures. Respondents shall take all reasonable measures to avoid and minimize the delay. Failure to comply with the notice provision of this Section shall be grounds for U.S. EPA to deny Respondents an extension of time for performance. Respondents shall have the burden of demonstrating by a preponderance of the evidence that the event is a force majeure, that the delay is warranted under the circumstances, and that best efforts were exercised to avoid and mitigate the effects of the delay.

If U.S. EPA determines a delay in performance of a requirement under this Order is or was attributable to a force majeure, the time period for performance of that requirement shall be extended as deemed necessary by U.S. EPA. Such an extension shall not alter Respondents' obligation to perform or complete other tasks required by the Order which are not directly affected by the force majeure.

X. STIPULATED AND STATUTORY PENALTIES

For each day, or portion thereof, that Respondents fail to fully perform any requirement of this Order in accordance with the schedule established pursuant to this Order, Respondents shall be liable as follows:

	Per Day Penalty For First Week or Part Thereof	Per Day Penalty For Each Following Week or Part Thereof
Failure to submit the Work Plan, Site Health and Safety Plan, Sampling and Analysis Plan, or the Schedule of Work to be Performed	$1,000	$3,000
Failure to meet any scheduled deadline in the Work Plan	$500	$2,000
Failure to submit the Final Report, or monthly reports	$500	$1,000
Failure to perform any other work or implement any other plan under this Order	$500	$1,500
Performing any work, or implementing any plan, or submitting any report, which fails to comply with requirements for such work, plan or report in this Order, the plans approved pursuant to this Order, or U.S. EPA guidance, criteria, instructions or comments for such work, plan or report.	$500	$1,500

Upon receipt of written demand by U.S. EPA, Respondents shall make payment to U.S. EPA within 20 days and interest shall accrue on late payments in accordance with Section VII of this Order (Reimbursement of Costs).

Even if violations are simultaneous, separate penalties shall accrue for separate violations of this Order. Penalties accrue and are assessed per violation per day. Penalties shall accrue regardless of whether U.S. EPA has notified Respondents of a violation or act of noncompliance. The payment of penalties shall not alter in any way Respondents' obligations to complete the performance of the work required under this Order. Stipulated penalties shall accrue, but need not be paid, during any dispute resolution period concerning the particular penalties at issue. If Respondents prevail upon resolution, Respondents shall pay only such penalties as the resolution requires. In its unreviewable discretion, U.S. EPA may waive its rights to demand all or a portion of the stipulated penalties due under this Section. Such a waiver must be made in writing.

Violation of any provision of this Order may subject Respondents to civil penalties of up to $27,500 per violation per day, as provided in Section 106(b)(1) of CERCLA, 42 U.S.C. §9606(b)(1). Respondents may also be subject to punitive damages in an amount up to three

times the amount of any cost incurred by the United States as a result of such violation, as provided in Section 107(c)(3) of CERCLA, 42 U.S.C. §9607(c)(3). Should Respondents violate this Order or any portion hereof, U.S. EPA may carry out the required actions unilaterally, pursuant to Section 104 of CERCLA, 42 U.S.C. §9604, and/or may seek judicial enforcement of this Order pursuant to Section 106 of CERCLA, 42 U.S.C. §9606.

XI. RESERVATION OF RIGHTS

Except as specifically provided in this Order, nothing herein shall limit the power and authority of U.S. EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing herein shall prevent U.S. EPA from seeking legal or equitable relief to enforce the terms of this Order. U.S. EPA also reserves the right to take any other legal or equitable action as it deems appropriate and necessary, or to require the Respondents in the future to perform additional activities pursuant to CERCLA or any other applicable law.

XII. OTHER CLAIMS

By issuance of this Order, the United States and U.S. EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondents. The United States or U.S. EPA shall not be a party or be held out as a party to any contract entered into by the Respondents or their directors, officers, employees, agents, successors, representatives, assigns, contractors, or consultants in carrying out activities pursuant to this Order. Except as specifically provided in this Order, each party shall bear its own costs and attorneys fees in connection with the action resolved by this Order.

Except as expressly provided in Section XIII (Covenant Not To Sue), nothing in this Order constitutes a satisfaction of or release from any claim or cause of action against the Respondents or any person not a party to this Order, for any liability such person may have under CERCLA, other statutes, or the common law, including but not limited to any claims of the United States for costs, damages and interest under Sections 106(a) or 107(a) of CERCLA, 42 U.S.C. §§9606(a), 9607(a).

This Order does not constitute a preauthorization of funds under Section 111(a)(2) of CERCLA, 42 U.S.C. §9611(a)(2). The Respondents waive any claim to payment under Sections 106(b), 111, and 112 of CERCLA, 42 U.S.C. §§9606(b), 9611, and 9612, against the United States or the Hazardous Substance Superfund arising out of any action performed under this Order. No action or decision by U.S. EPA pursuant to this Order shall give rise to any right to judicial review except as set forth in Section 113(h) of CERCLA, 42 U.S.C. §9613(h).

XIII. COVENANT NOT TO SUE

Except as otherwise specifically provided in this Order, upon issuance of the U.S. EPA notice referred to in Section XVII (Notice of Completion), U.S. EPA covenants not to sue Respondents for judicial imposition of damages or civil penalties or to take administrative action against Respondents for any failure to perform removal actions agreed to in this Order except as otherwise reserved herein.

Except as otherwise specifically provided in this Order, in consideration and upon Respondents' payment of the response costs specified in Section VII of this Order, U.S. EPA covenants not to sue or to take administrative action against Respondents under Section 107(a) of CERCLA, 42 U.S.C. §9607(a), for recovery of past and oversight costs incurred by the United States in connection with this removal action and this Order. This covenant not to sue shall take effect upon the receipt by U.S. EPA of the payments required by Section VII (Reimbursement of Costs).

These covenants not to sue are conditioned upon the complete and satisfactory performance by Respondents of their obligations under this Order. These covenants not to sue extend only to the Respondents and do not extend to any other person.

XIV. CONTRIBUTION PROTECTION

With regard to claims for contribution against Respondents for matters addressed in this Order, the Parties hereto agree that the Respondents are entitled to protection from contribution actions or claims to the extent provided by Section 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§9613(f)(2) and 9622(h)(4).

Nothing in this Order precludes Parties from asserting any claims, causes of action or demands against any persons not parties to this Order for indemnification, contribution, or cost recovery.

XV. INDEMNIFICATION

Respondents agree to indemnify, save and hold harmless the United States, its officials, agents, contractors, subcontractors, employees and representatives from any and all claims or causes of action: (A) arising from, or on account of, acts or omissions of Respondents and Respondents' officers, heirs, directors, employees, agents, contractors, subcontractors, receivers, trustees, successors or assigns, in carrying out actions pursuant to this Order; and (B) for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between

any one or more of Respondents, and any persons for performance of work on or relating to the Site, including claims on account of construction delays. Nothing in this Order, however, requires indemnification by Respondents for any claim or cause of action against the United States based on negligent action taken solely and directly by U.S. EPA (not including oversight or approval of plans or activities of the Respondents).

XVI. MODIFICATIONS

Modifications to any plan or schedule may be made in writing by the OSC or at the OSC's oral direction. If the OSC makes an oral modification, it will be memorialized in writing within 7 business days; however, the effective date of the modification shall be the date of the OSC's oral direction. Any other requirements of this Order may be modified in writing by mutual agreement of the parties.

If Respondents seek permission to deviate from any approved plan or schedule, Respondents' Project Coordinator shall submit a written request to U.S. EPA for approval outlining the proposed modification and its basis.

No informal advice, guidance, suggestion, or comment by U.S. EPA regarding reports, plans, specifications, schedules, or any other writing submitted by the Respondents shall relieve Respondents of their obligations to obtain such formal approval as may be required by this Order, and to comply with all requirements of this Order unless it is formally modified.

XVII. NOTICE OF COMPLETION

When U.S. EPA determines, after U.S. EPA's review of the Final Report, that all work has been fully performed in accordance with this Order, except for certain continuing obligations required by this Order (e.g., record retention, payment of costs), U.S. EPA will provide written notice to the Respondents. If U.S. EPA determines that any removal activities have not been completed in accordance with this Order, U.S. EPA will notify the Respondents, provide a list of the deficiencies, and require that Respondents modify the Work Plan if appropriate to correct such deficiencies. The Respondents shall implement the modified and approved Work Plan and shall submit a modified Final Report in accordance with the U.S. EPA notice. Failure to implement the approved modified Work Plan shall be a violation of this Order.

XVIII. SEVERABILITY

If a court issues an order that invalidates any provision of this Order or finds that Respondents have sufficient cause not to comply with one or more provisions of this Order, Respondents shall remain bound to comply with all provisions of this Order not invalidated by the court's order.

XIX. EFFECTIVE DATE

This Order shall be effective upon receipt by Respondents of a copy of this Order signed by the Director, Superfund Division, U.S. EPA Region 5.

IN THE MATTER OF:

J-PITT MELT SHOP SITE
CHICAGO, ILLINOIS

SIGNATORIES

Each undersigned representative of a signatory to this Administrative Order on Consent certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to bind such signatory, its directors, officers, employees, agents, successors and assigns, to this document.

Agreed this 26th day of JULY, 2001.

By J M. Kaplan Sect. - Treasurer
M. S. Kaplan Co.

Agreed this _____ day of _____, 2001.

By _____

_____

IT IS SO ORDERED AND AGREED

BY: _____ DATE: 8/3/01
for William E. Muno, Director
Superfund Division
United States Environmental Protection Agency
Region 5

Appendix C

Appendix C
USEPA Summaries of its Response Activities

LAW OFFICES
ROSENTHAL AND SCHANFIELD
PROFESSIONAL CORPORATION

46TH FLOOR
55 EAST MONROE STREET
CHICAGO, ILLINOIS 60603-5855

JOSEPH R. PODLEWSKI

WRITER'S DIRECT DIAL NO.
312-899-5591
jpodlewski@rosenschan.com

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FAX (312) 236-7274
www.rosenschan.com

June 11, 2001

Mr. Steve Kaplan
M.S. Kaplan Company
2500 Euclid Avenue
Chicago Heights, Illinois 60411

Mr. Lawrence Fieber
Burns & McDonnell
2601 West 22nd Street
Oak Brook, Illinois 60523-1229

Re: J. Pitt Melt Shop

Dear Steve and Lawrence:

Enclosed for your information is a copy of the United States Environmental Protection Agency's administrative record to support its CERCLA removal action in the above-referenced case. I received this from the USEPA by mail on June 11, 2001.

Very truly yours,

ROSENTHAL AND SCHANFIELD

Joseph R. Podlewski, Jr.

JRP/lod
Enclosure

ATTACHMENT III

U.S. ENVIRONMENTAL PROTECTION AGENCY
REMOVAL ACTION

ADMINISTRATIVE RECORD
FOR
J-PITT STEEL MELT SHOP SITE
CHICAGO, COOK COUNTY, ILLINOIS

ORIGINAL
MAY 8, 2001

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION	PAGES
1	04/09/01	Gulcyzynski, A. & R. Muzzalupo, IDNS	Benning, B., U.S. EPA	Memorandum re: Radiation Survey for the J-Pitt Steel Melt Shop Site	15
2	04/16/01	Tetra Tech EM, Inc.	Benning, B., U.S. EPA	Analytical and Quality Control Reports for the J-Pitt Steel Metal Shop Site	1
3	04/17/01	Jensen, L. U.S. EPA	Benning, B., U.S. EPA	Memorandum re: Radiation Survey for the J-Pitt Steel Melt Shop Site	11
4	04/20/01	Ganz, J. IIT Research Institute	Benning, B., U.S. EPA	XRF Analyses for for J-Pitt Steel Melt Shop Site	2
5	05/02/01	Benning, B. U.S. EPA	Distribution List	POLREP #1 (Initial) for the J-Pitt Steel Melt Shop Site	3
6	00/00/00	Benning, B., U.S. EPA	Muno, W. U.S. EPA	Action Memorandum: Request for a Time-Critical Removal Action at the J-Pitt Steel Melt Shop Site (PENDING)	5

C. Description of Threat

Numerous drums, fuel storage containers, paint cans, poly tanks, and miscellaneous small containers are scattered throughout the site. The contents of these drums and containers include oils, grease, acids, paints, cleaning fluids and other unknown materials. Several pits containing unknown liquids are located in sections two and three. In addition, large piles of slag, dust, and flyash are present the building, mainly in section three. Asbestos and radioactive material is also present on-site. Site access is not completely restricted and previous trespassers on-site have removed the majority of the electrical equipment and copper wiring.

IV. RESPONSE INFORMATION

A. Response Activities to Date (April 5, 2001 to April 19, 2001)

U.S. EPA was notified of the site by the U.S. Coast Guard (USCG), Chicago Marine Safety Office on Thursday, April 5, 2001. The USCG reported an oil sheen on the Canal near the site. On-scene coordinator (OSC) Brad Benning responded to the call. A site inspection lead to the discovery of 258 artillery rounds in a slag pile at the back of the facility. Because it was unknown whether the artillery was live, several agencies were notified. The Chicago Police Department (CPD), Chicago Department of the Environment (CDOE), and the U.S. Army all responded to the site. After several days of negotiations, the artillery rounds were removed by the U.S. Army on Tuesday, April 10, 2001.

On April 6, 2001, in order to examine the additional threats on-site, OSC Benning mobilized an ERRS contractor, Ferguson Harbor, Inc., to the site to assist with site work. In response to the sheen on the Canal, several pieces of absorbent boom were placed in the Canal to contain the sheen. Further investigation of the building uncovered other immediate threats including drums and other containers containing oils, grease, baghouse dust, antifreeze, acids, hydraulic fluid, and other unknown liquids, leaking transformers, open pits with unknown contents, large slag and dust piles, and asbestos materials. U.S. EPA and Illinois Department of Nuclear Safety (IDNS) performed radiation survey throughout the site building. Two large steel kettles in section two were identified as containing radioactive materials, specifically Cesium-137. Another source of Cesium-137 was discovered in a room between sections two and three.

On Monday, April 9, 2001, a four person crew from Ferguson Harbor, along with equipment including a Bobcat, mobilized to the site. The Ferguson Harbor crew began setting up a staging area in section one for the drums, tanks, transformers and other containers located throughout the facility. A sea curtain was placed in the Canal, in addition to the existing absorbent boom, to further contain the oil sheen.

OSC Benning also mobilized the Superfund Technical Assessment Team (START) to site on Monday, April 9, 2001. START performed air monitoring throughout the site and collected samples to help further identify the threats to human health and the environment on-site. START collected six samples from locations throughout the building. Oil was discovered on the floor of a transformer room in section three. START collected a sample of this oil and used a Chlor-n-oil, PCB field test kit to determine if PCBs were present in the oil. The result from the test kit was less than 50 parts per million (ppm), therefore a sample from this area was not sent for analysis. The samples were sent to a laboratory for analysis, four of the samples were analyzed for TCLP Lead and RCRA metals, and the remaining two samples were analyzed for PCBs.

Analytical results indicated high levels of PCBs in one sample. Arsenic, barium, chromium, cadmium, lead, mercury and silver were all detected in the four samples analyzed for RCRA metals. These metals were detected at varying levels, low levels of arsenic, barium, cadmium, mercury, and silver in all four samples, but slightly higher levels chromium and lead in two samples. Levels detected were: 54,000 ppm PCB-1254 in the NE Floor sample, 528 ppm

V. ESTIMATED COSTS (through April 19, 2001)

	Used	Ceiling	Percent Remaining
ERRS	$ 30,000	$ 35,000	15%
START	$ 6,500	$ 10,000	65 %

* The above accounting of expenditures is an estimate based on amounts known by the OSC at the time of the preparation of this report. The cost accounting data shown in this report does not necessarily represent the exact monetary figures which the U.S. Government may include in any claim for cost recovery.

VI. DISPOSITION OF WASTES

DISPOSITION OF WASTES
31st AND CALIFORNIA
CHICAGO, ILLINOIS

Wastestream / Backfill	Medium	Quantity	Units	Treatment	Disposal Facility
Artillery Rounds	N/A	258	Each	None	

The data were validated in general accordance with the EPA's "Contract Laboratory Program National Functional Guidelines for Organic Data Review" dated Oct 99 and "Contract Laboratory Program National Functional Guidelines for Inorganic Data Review" (NFG) dated Feb 94. Organic data validation consisted of a review of the following quality control (QC) parameters: holding times, gas chromatograph (GC) instrument performance check, initial and continuing calibrations, blank results, surrogate results, matrix spike and matrix spike duplicate sample (MS/MSD) results, laboratory control sample (LCS) results, and compound identification. Inorganic data validation consisted of a review of the following QC parameters: holding times, initial and continuing calibrations, blank results, interference check sample (ICS) results, laboratory control sample (LCS) results, and matrix spike and matrix spike duplicate (MS/MSD) results.

Section 2.0 discusses the results of the organic data validation, Section 3.0 discusses the results of the inorganic data validation, and Section 4.0 presents an overall assessment of the data. The attachment contains Test America's summary of sample analytical results.

2.0 ORGANIC DATA VALIDATION RESULTS

The results of START's data validation are summarized below in terms of the QC parameters reviewed.

2.1 HOLDING TIMES

All samples were analyzed within the established holding time limit of 14 days to extraction and 40 days to analysis from extraction for PCB analyses.

2.2 GC INSTRUMENT PERFORMANCE CHECK

The chromatographic peak resolutions were adequate in the PCB analysis.

2.8 COMPOUND IDENTIFICATION

Compound identification in the samples was adequate. The chromatographic peak pattern of the sample with detected PCBs matched the chromatographic peak pattern of the PCB standard.

3.0 INORGANIC DATA VALIDATION RESULTS

The results of START's data validation are summarized below in terms of the QC parameters reviewed.

3.1 HOLDING TIMES

All samples were analyzed within the 28-day holding time limit for mercury, and the 6-month holding time limit for all other metals.

3.2 INITIAL AND CONTINUING CALIBRATIONS

The recoveries during the initial and continuing calibrations were within the QC limits of 80 to 120 percent for mercury and 90 to 110 percent for all other metals.

3.3 BLANK RESULTS

Initial calibration blanks, continuing calibration blanks, and preparation blanks were run with each analytical batch. Target analytes were not detected in the blanks above the laboratory reporting limits.

3.4 ICS RESULTS

The ICSs were analyzed with the samples. The ICS results were within the QC limit of 80 to 120 percent recovery.

ATTACHMENT

TEST AMERICA SUMMARY OF SAMPLE ANALYTICAL RESULTS

(10 Sheets)

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Lisa Graczyk/Dave Franc
TETRA TECH EM, INC.
200 East Randolph Dr.
Ste. 4700
Chicago, IL 60601

04/16/2001

Sample No. : 623252

Job No.: 01.03016

Sample Description: Roll Door Room
Proj. #S05-0104-012; 31st & California

Date Taken: 04/09/2001
Time Taken: 13:30

Date Received: 04/09/2001
Time Received: 18:50

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Time Analyzed	Analyst Initials	Analytical Method
Solids, Total	73.8		%	0.1	04/12/2001		jht	SM 2540
TCLP Metals Extraction	Leached				04/10/2001		kkp	SW 1311
Arsenic, GFAA	12		mg/kg dw	2.0	04/13/2001		jtt	SW 7060
Barium, ICP	244		mg/kg dw	1.4	04/13/2001		aks	SW 6010B
Cadmium, ICP	15		mg/kg dw	0.68	04/13/2001		aks	SW 6010B
Chromium, ICP	528		mg/kg dw	2.7	04/13/2001		aks	SW 6010B
Lead, ICP	854		mg/kg dw	5.4	04/13/2001		aks	SW 6010B
Mercury, CVAA	0.92		mg/kg dw	0.054	04/12/2001		efw2	SW 7471A
Selenium, GFAA	<2.0		mg/kg dw	2.0	04/13/2001		jtt	SW 7740
Silver, AA	4.6		mg/kg dw	2.7	04/11/2001		kbh	SW 7760
TCLP-Lead, ICP	<0.200		mg/L	0.200	04/13/2001		jtt	SW 6010B

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Lisa Graczyk/Dave Franc
TETRA TECH EM, INC.
200 East Randolph Dr.
Ste. 4700
Chicago, IL 60601

04/16/2001

Sample No. : 623254

Job No.: 01.03016

Sample Description: West Room
Proj. #S05-0104-012; 31st & California

Date Taken: 04/09/2001
Time Taken: 14:20

Date Received: 04/09/2001
Time Received: 18:50

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Time Analyzed	Analyst Initials	Analytical Method
Solids, Total	99.3		%	0.1	04/12/2001		jht	SM 2540
TCLP Metals Extraction	Leached				04/10/2001		kkp	SW 1311
Arsenic, GFAA	3.9		mg/kg dw	1.5	04/13/2001		jtt	SW 7060
Barium, ICP	19		mg/kg dw	1.0	04/13/2001		aks	SW 6010B
Cadmium, ICP	13		mg/kg dw	0.50	04/13/2001		aks	SW 6010B
Chromium, ICP	352		mg/kg dw	2.0	04/13/2001		aks	SW 6010B
Lead, ICP	57		mg/kg dw	4.0	04/13/2001		aks	SW 6010B
Mercury, CVAA	0.041		mg/kg dw	0.040	04/12/2001		efw2	SW 7471A
Selenium, GFAA	<1.5		mg/kg dw	1.5	04/13/2001		jtt	SW 7740
Silver, AA	<2.0		mg/kg dw	2.0	04/11/2001		kbh	SW 7760
TCLP-Lead, ICP	<0.200		mg/L	0.200	04/13/2001		jtt	SW 6010B

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

TestAmerica
INCORPORATED

ANALYTICAL REPORT

Lisa Graczyk/Dave Franc
TETRA TECH EM, INC.
200 East Randolph Dr.
Ste. 4700
Chicago, IL 60601

04/16/2001

Sample No. : 623256

Job No.: 01.03016

Sample Description: Open Pit
Proj. #S05-0104-012; 31st & California

Date Taken: 04/09/2001
Time Taken: 14:55

Date Received: 04/09/2001
Time Received: 18:50

Parameter	Result	Flag	Units	Reporting Limit	Date Analyzed	Time Analyzed	Analyst Initials	Analytical Method
Prep PCBs Oil	extracted				04/12/2001		jjh	SW 3580A
PCBs 8082 Oil								
PCB-1016	<2		mg/kg	2	04/12/2001		out	SW 8082
PCB-1221	<2		mg/kg	2	04/12/2001		out	SW 8082
PCB-1232	<2		mg/kg	2	04/12/2001		out	SW 8082
PCB-1242	<2		mg/kg	2	04/12/2001		out	SW 8082
PCB-1248	<2		mg/kg	2	04/12/2001		out	SW 8082
PCB-1254	<2		mg/kg	2	04/12/2001		out	SW 8082
PCB-1260	<2		mg/kg	2	04/12/2001		out	SW 8082
Surr: Decachlorobiphenyl (DCB)	60.0		%	45-134	04/12/2001		out	SW 8082
Surr: Tetrachloroxylene (TCX)	45.0		%	45-132	04/12/2001		out	SW 8082

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

TestAmerica
INCORPORATED

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in the results column indicates the analyte was not detected at or above the reported value.
N/S	:	No coliform bacteria were present and the opinion is satisfactory.
P/U	:	Coliform bacteria were present and the opinion is unsatisfactory.
mg/L	:	Concentration in units of milligrams of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per million (ppm).
ug/g	:	Concentration in units of micrograms of analyte per gram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per million (ppm) or mg/Kg.
ug/L	:	Concentration in units of micrograms of analyte per liter of sample. Measurement used for aqueous samples. Can also be expressed as parts per billion (ppb).
ug/Kg	:	Concentration in units of micrograms of analyte per kilogram of sample. Measurement used for non-aqueous samples. Can also be expressed as parts per billion (ppb).
TCLP	:	These initials appearing in front of an analyte name indicate that the Toxicity Characteristic Leaching Procedure (TCLP) was performed for this test.
Surr:	:	These initials are the abbreviation for surrogate. Surrogates are compounds that are chemically similar to the compounds of interest. They are part of the method quality control requirements.
%	:	Percent; To convert ppm to %, divide the result by 10,000. To convert % to ppm, multiply the result by 10,000.
.CP	:	Indicates analysis was performed using Inductively Coupled Plasma Spectroscopy.
AA	:	Indicates analysis was performed using Atomic Absorption Spectroscopy.
GFAA	:	Indicates analysis was performed using Graphite Furnace Atomic Absorption Spectroscopy.
PQL	:	Practical Quantitation Limit; the lowest level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions.

Method References

ASTM "American Society for Testing Materials".

EPA "Methods for Chemical Analysis of Water and Wastes", USEPA, EPA 600/4-79-020, Revised March 1983.

EPA "Test Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater", EPA 600/4-82-057, July 1982.

SDWA "Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water", USEPA, September 1986.

SDWA "Methods for the Determination of Metals in Environmental Samples", Supplement I USEPA, EPA-600/R-94/111, May 1994.

SM "Standard Methods for the Examination of Water and Wastewater", APHA-AWWA-WPCF, 18th Edition.

SW "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA, SW-846.

850 W. Bartlett Rd. / Bartlett, IL 60103-4400 / 630-289-3100 / Fax: 630-289-5445 / 800-378-5700

IIT RESEARCH INSTITUTE

IIT Research Institute ESAT Region 5
536 South Clark Street, Suite 1050; Chicago, IL 60605
Telephone (312) 353-8302 Facsimile (312) 353-8307

To: Steve Peterson
Brad Benning

cc: J. Morris
J. Thakkar
M. Kaminsky

From: J. Ganz

Date: April 20, 2001

TDF: 5-03-005

Re: XRF analyses for the JPIT Melt Shop

One ESAT analyst drove to the JPIT Melt Shop in Chicago on April 16, 2001 for the purpose of performing XRF analysis on soil and dust samples associated with this site. The TDF requires the samples to be analyzed for lead and chromium; however, the on-site coordinator (OSC) requested analysis for lead and cadmium. There was no interest in chromium.

A workstation was set up just inside the entrance to a building which was part of the area under investigation. A zone surrounding this entrance was designated as a "clean area"; the sampling crew used this zone for decontaminating and changing clothing. The instrument used was the Spectrace 9000 XRF. The XRF was set up and allowed to warm up and adapt to the ambient temperature (approximately 35 degrees F) for one hour.

The samples had already been dried and ground and stored in plastic bags when the analyst arrived at the site. Sample aliquots were placed into the XRF sample cups in preparation for analysis.

After the instrument had been allowed to stand for an hour, the analyst analyzed a series of soil standards supplied by Outokumpu Electronics containing lead and cadmium in order to estimate the reliability of the concentration readings obtained from the instrument. From this data it was observed that cadmium values were biased high by up to 35% while the lead values were biased low by up to 20% for readings greater than 400 ug/l. For lead readings less than 400 the bias was 35%.

Readings for all standards and samples were taken using three radiation sources: cadmium 109, iron 55, and americium 241. The exposure time was 200 seconds for each source, or 600 seconds total.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 5
Superfund Division
77 West Jackson Boulevard
Chicago, Illinois 60604

DATE : April 17, 2001

SUBJECT: Radiation Survey, JPITT Melt Shop, Chicago, Illinois

FROM: Larry Jensen, CHP
Senior Health Physicist
Emergency Response Section #3

TO: Brad Benning
On-Scene Coordinator
Emergency Response Section #3

On April 12 and 13, 2001, Gerald Gels, U.S. Environmental Protection Agency (USEPA) Emergency Response Team (Signal Corporation) and I surveyed the JPITT Melt Shop at 3151 S. California Avenue, Chicago, Illinois 60608 for radioactive materials.

We walked the entire ground floor and, also the upper level where what we believe the "caldron" that was used to melt scrap metal was. A two by two sodium iodide detector and a FIDLER sodium iodide detector were used for surveillance and a SAM portable multi-channel analyzer was used for radionuclide detection. Thirteen major sources were found.

Three of these were large cylinders, about 3 feet in diameter and about 3 feet high. The SAM detector established that they each contained a cesium-137 source. Exposure rates are shown on the attached sketches. These levels were low enough that response personnel can work in the vicinity without acquiring a significant dose. However, judging by the thickness of the lid, I believe that there is a strong source inside. Records showed that the previous owner purchased several 1.25 curie cesium-137 sources. If these are inside, removal of the lid could expose a source that could cause very significant dose or even death. Thus, in no case should these devices be dismantled. Smears taken on all three devices showed no removable material.

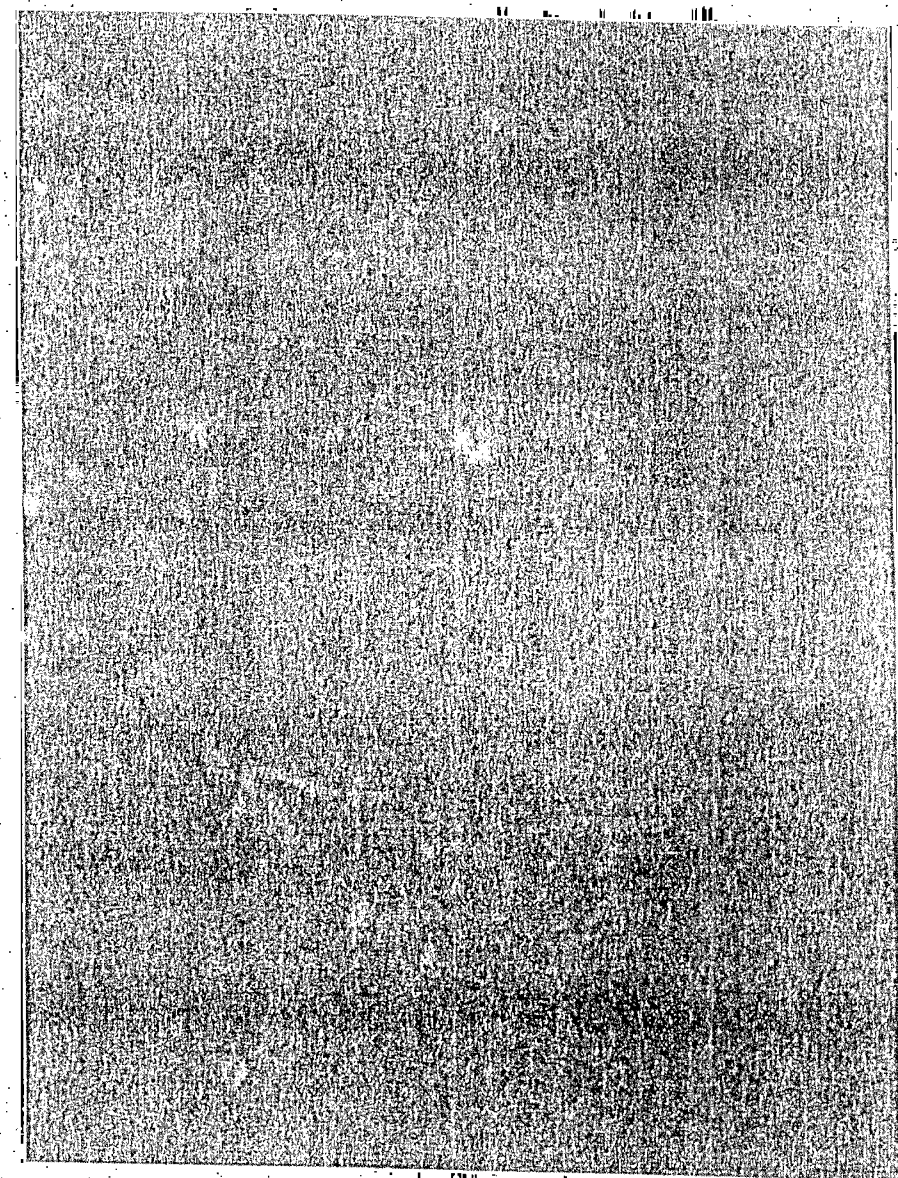
The ten remaining sources were "needles" about 5 inches long and about ½ inch in diameter at the base. The "needle" portion of this was about 4 inches long and about 1/16th to 1/8th inch in diameter. There was a section about 1 inch long and about 1/8th inch in diameter at the tip that appears to be the source. These were also identified as cesium-137 with the SAM detector. [Later you called to say that you had been told these are devices imbedded in the refractor brick that melt away when the brick

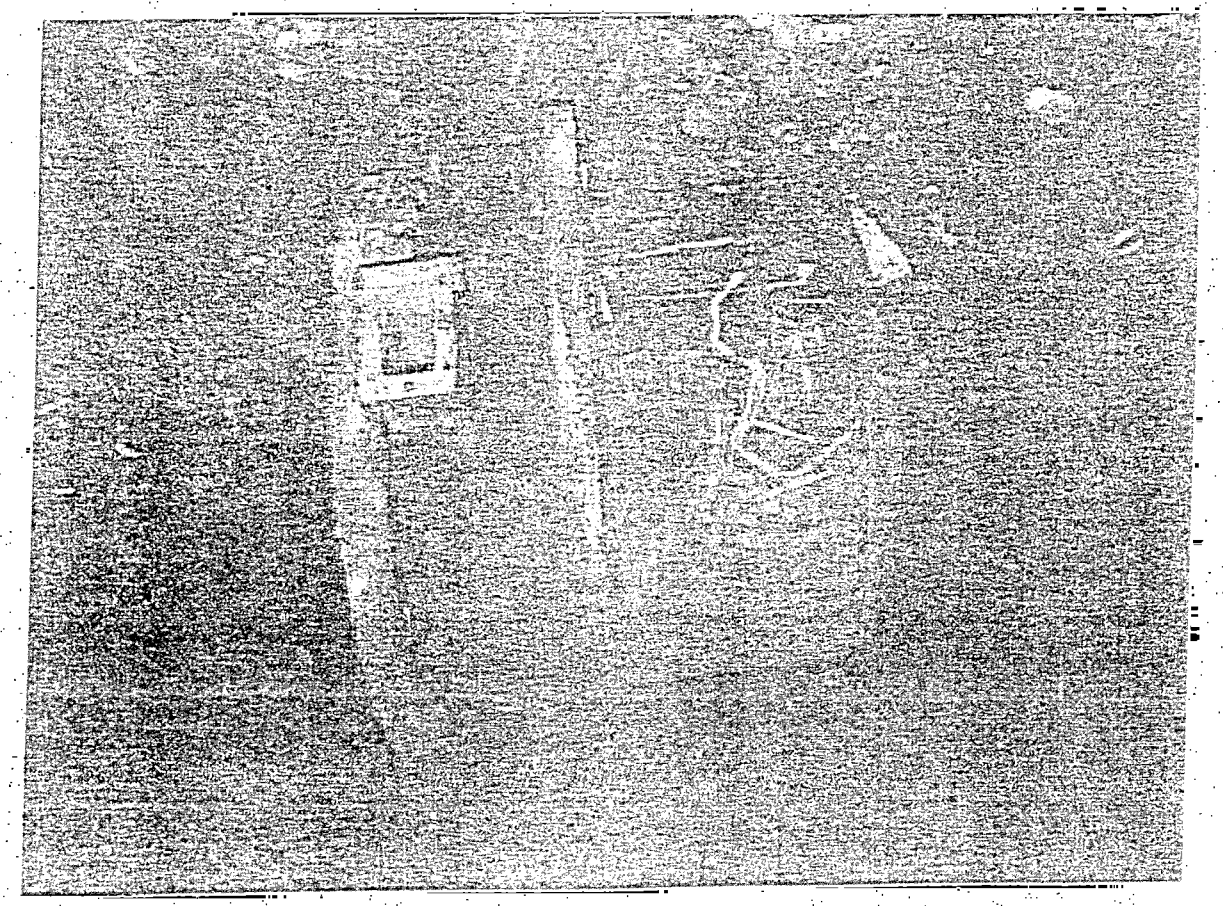
In addition to the 13 devices discussed above, there are numerous other radioactive materials in this building. These consist of bags of materials, "doughnut" shaped objects, disk shaped objects, formed materials, "dirt" and bricks. These were measured to be uranium and thorium materials, presumably unlicensed, uncontrolled Naturally Occurring Radioactive Materials (NORM). Our measurements show that they do not present a worker exposure problem. They are probably commercial materials that are not identified and treated as radioactive in the general environment. IDNS would be the determiner on official control issues. Mr Gulczynski and Ms Kark took 500 milliliters for spectral analysis of MarPatch-Z, a bagged material found on the upper level near the "caldron" that showed the highest count rate.

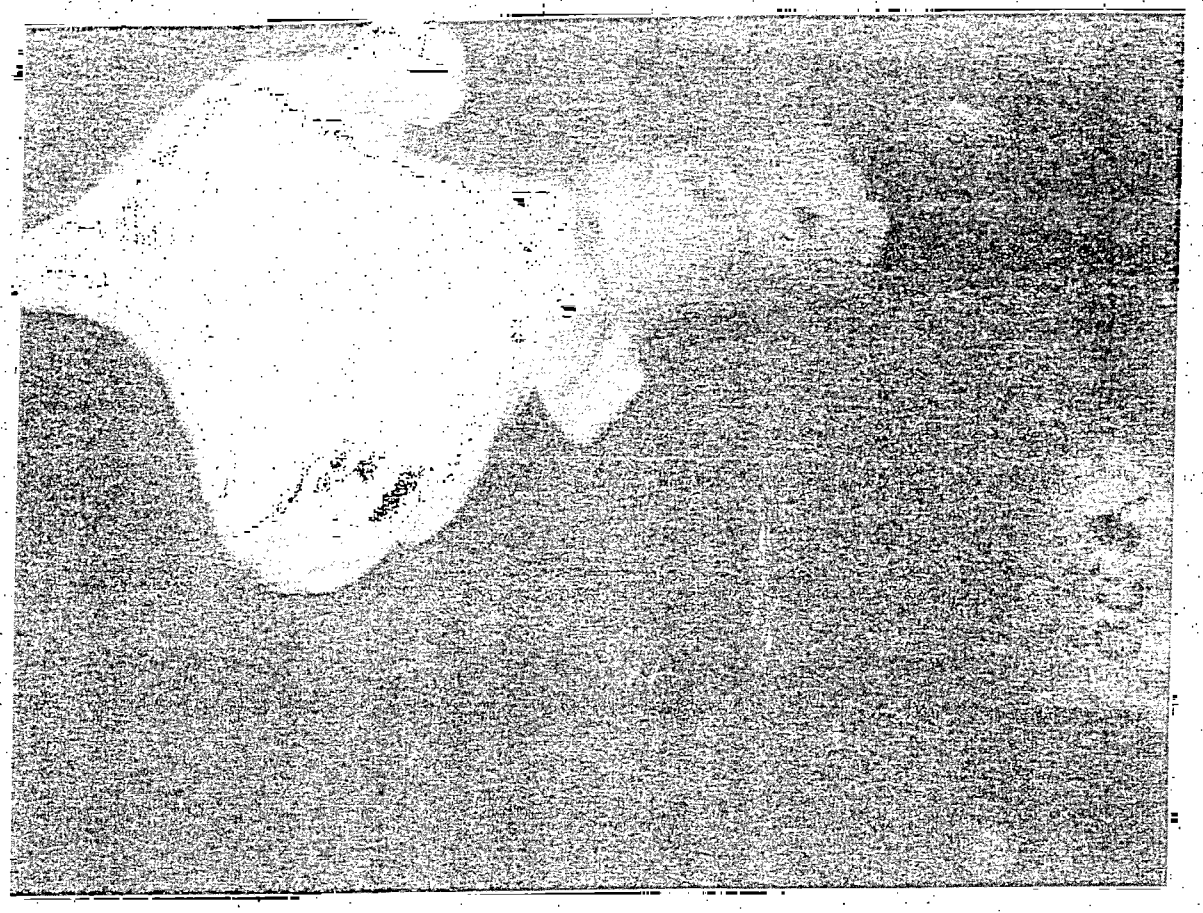
The licenses held by Charter Electric Melt and JPITT Melt Shop should be reviewed to see what sources were onsite. It should be determined if Charter transferred their license to JPITT and if JPITT officially terminated their license when they went bankrupt in 1997. Review of any closeout surveys by IDNS and/or NRC could help establish if there are remaining sources onsite. I would strongly recommend this for protection of our workers if nothing else, especially if IDNS does not plan to reenter the building until the chemical hazards are removed.

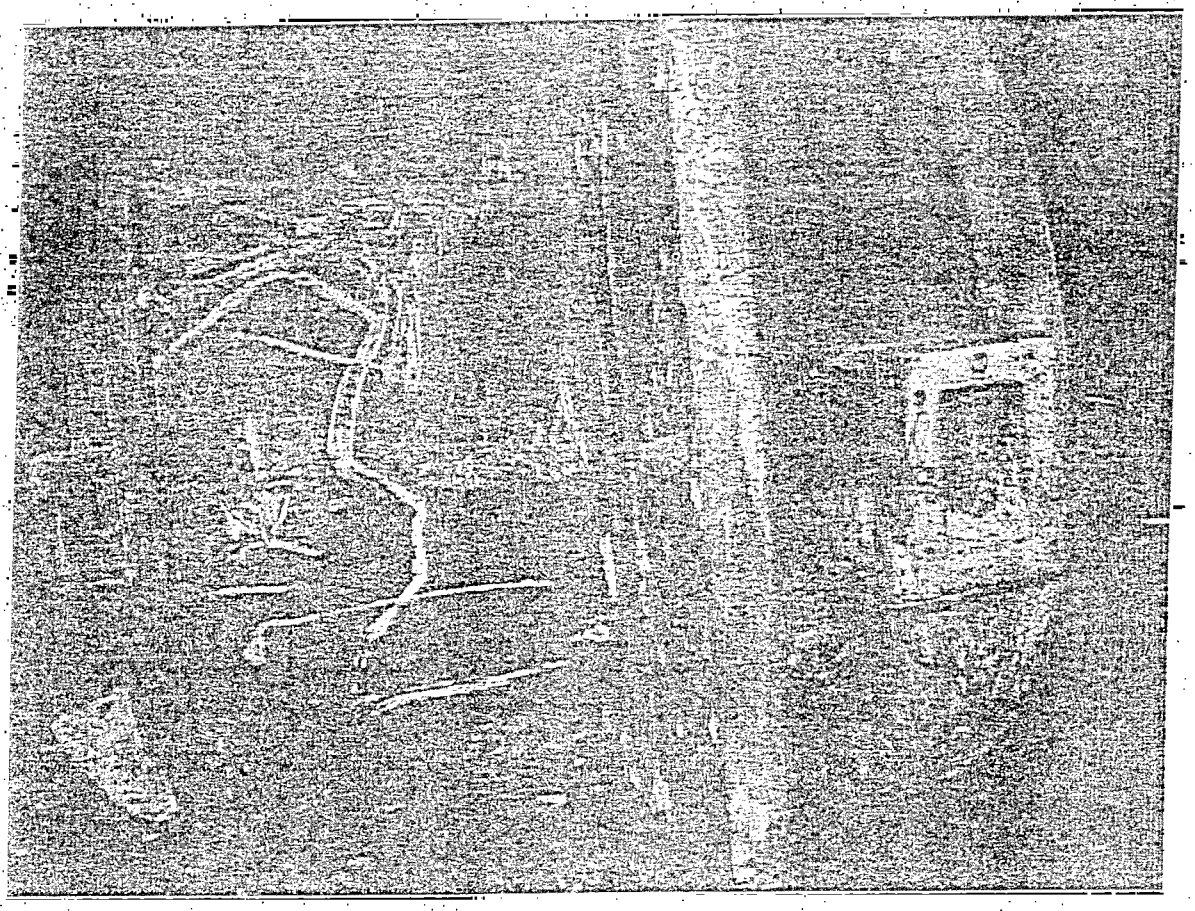
Prior to leaving, the inspectors discussed their findings with Mr. Brad Benning of USEPA and provided him with a couple "C-RAM" signs for posting on the device. A copy of the CRCPD Waste Broker listing was also provided to Mr. Benning. Mr. Benning assured the inspectors that the site would be secured and stated that he appreciated the help.

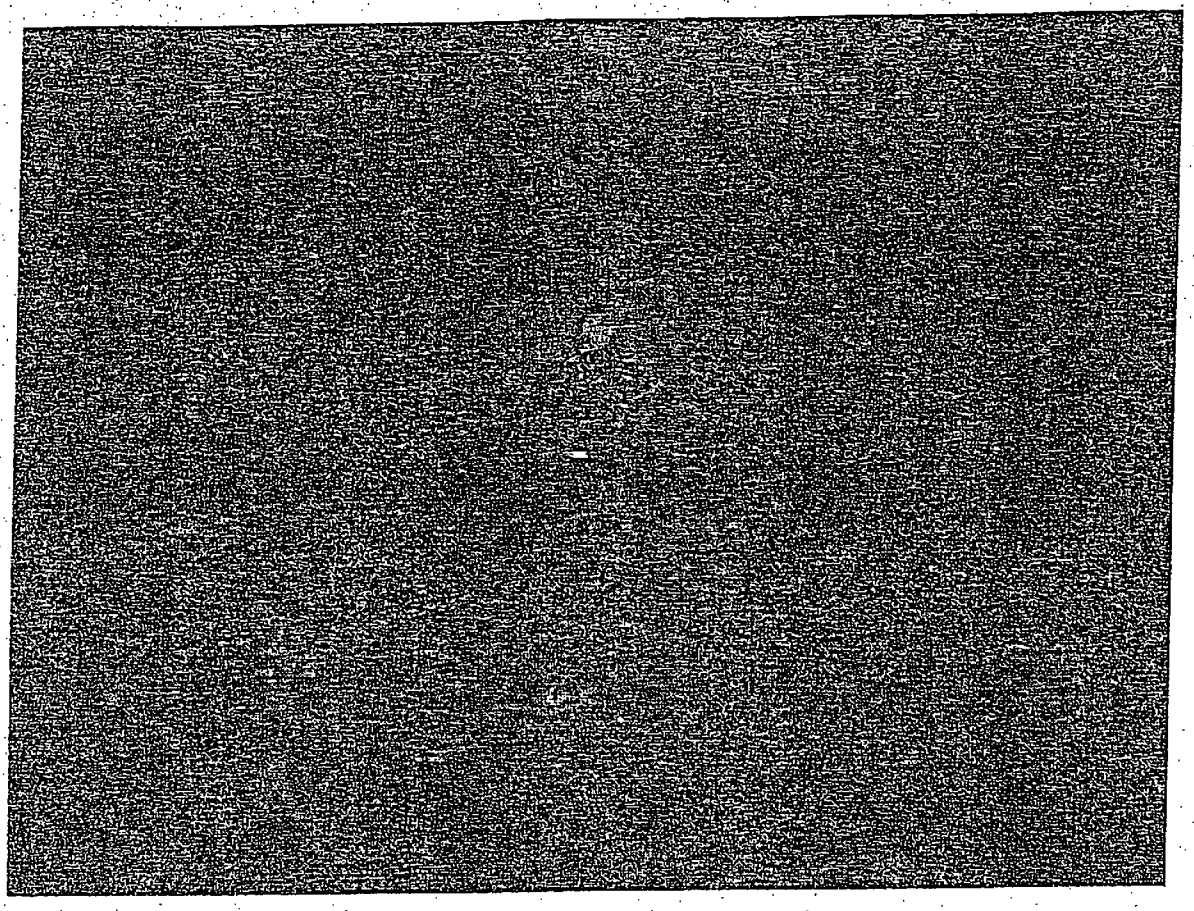
Pending satisfactory disposition of the material found at the site, this matter may be considered closed.











BTI-F11 DOSPEC (G) v2.07
former.001
Billet former next to Cozzi; Chicago; 80 uR/hour at opening; Cs-137;
April 6, 2001; ASG:RGM.
Run started at:Fri Apr 06 12:38:07 2001
Duration (s): 300
ROI-L: 0 ROI-R: 0
ROI Total Area: 0 Net Area: 0
ROI Centroid: 0.00 keV
ROI Count rate: 0.000000 counts/sec
Total Count rate: 870.481201 counts/sec
Dead Time (per cent): 14.037964
Calibration : zero (ch) 11.6590
Calibration : gain (keV/ch) 11.7613

Channel:Counts

0:	0	44:	3290	88:	8	132:	9	176:	4
1:	0	45:	3007	89:	6	133:	7	177:	0
2:	0	46:	2790	90:	15	134:	2	178:	0
3:	0	47:	2718	91:	7	135:	4	179:	0
4:	0	48:	2548	92:	18	136:	3	180:	0
5:	0	49:	2462	93:	7	137:	7	181:	0
6:	0	50:	2226	94:	5	138:	3	182:	1
7:	0	51:	2127	95:	5	139:	1	183:	0
8:	0	52:	1793	96:	9	140:	2	184:	2

Appendix D
Burns & McDonnell Notices and Work Plan Letters to USEPA

Appendix D1
Notice for Baghouse Dust Removal Activity

April 18, 2002

Bradley Benning
Environmental Scientist
United States Environmental Protection Agency
Superfund Division Response Section 2
SE-5J
77 West Jackson Blvd.
Chicago, IL 60604-3590

RE: Notice for Baghouse Dust Removal Activity
J. Pitt Melt Shop Site
3151 South California Avenue
Chicago, Illinois

Dear Mr. Benning:

This letter is to notify the Unites States Environmental Protection Agency (USEPA) of the implementation of the baghouse dust removal activity at the J.Pitt Melt Shop (Site) located at 3151 South California Avenue, in Chicago, Illinois. This task will involve the removal of the hazardous waste identified as K061 electric-arc furnace dust and associated baghouse filters located within the baghouse units. The baghouse units are identified as the twelve (12) units outside of the building on Site and the associated ductwork within these 12 units, and the four units inside the building and associated ductwork within these four units. Ductwork located outside of baghouse is not included.

The start date of implementing the baghouse dust removal activity is Monday, April 22, 2002. Burns & McDonnell anticipates the removal activity will span over eight to ten working days.

Burns & McDonnell will oversee the selected subcontractor, SET Environmental, Inc., perform the baghouse dust removal activity. The scope of work to be done by SET Environmental is as follows:

a) Subcontractor will remove the Baghouse dusts and filters from the 12 baghouse units outside and four baghouse units inside of the facility and dusts located within these units and within the ductwork located within these units. Subcontractor assumes all baghouse dust within the baghouse units can be removed using a vacuum. Jack hammering of baghouse dust is not planned but may be implemented dependent upon field conditions.

b) Subcontractor will transfer baghouse dust and filters into roll-off containers furnished by Waste Management. Water or other appropriate application, will be used by the subcontractor to control dust and air emissions during transfer of baghouse dust and filters to roll-off containers.

c) Subcontractor will follow confined space entry requirements.

d) Subcontractor will decontaminate baghouse units after removal of baghouse dust. Burns & McDonnell will deem decontamination complete via digital photographs taken by subcontractor within units. Decontamination will be deemed complete when no dust is visible within units on the digital photos.

e) Subcontractor will transfer decontaminated water from baghouse units into Subcontractor supplied drums or tank(s).

f) Maintain tarping or other type of containerization on roll-off containers to control dust emissions while boxes are stationed on Site.

g) Subcontractor shall obtain appropriate local, state and federal permits required to perform removal activities.

SET Environmental has indicated the series of tasks to be completed during the baghouse dust removal activity is as follows:

a) Preparation/Mobilize to Site – includes review of Site Health And Safety Plan, and material safety data sheets.

b) Removal of Filter Socks – arrange necessary fall protection measures and permit confined space entry; remove bag and tape bags of filter socks; and load out bags to roll off containers.

c) Vacuum Interior of Baghouse Units – mobilize hurricane unit and associated hoses; vacuum ash and debris.

d) Clean Cones and Augers – remove plates, vacuum interior of cones and augers, pressure wash interiors and collect rinsate.

e) Demobilization – decontaminate equipment and supplies, demobilize equipment and facilities, drum all personal protection equipment and debris.

Waste Management of Illinois, Inc., has agreed to accept the transport and disposal of the K061 electric-arc furnace dust and associated baghouse filters to its CID Area 4 facility in Chicago, Illinois. Burns & McDonnell estimates approximately 300 tons of K061 waste will be transported and disposed at CID Area 4.

The Site work is anticipated to be conducted at a minimum in Modified Level D, which includes: appropriate work clothes; disposable inner nitrile gloves, disposable chemical-resistant clothing, steel toe boots, safety glasses, hard hat, and hearing protection. Most work activities may require upgrade to Level C that includes Modified Level D plus a full-face air purifying respirator. Dependant on oxygen levels within the baghouse units, some work activities may also require upgrade to Level B, which includes a full-face supplied air respirator. The Burns & McDonnell

Site Health and Safety Plan prepared July 2001will be the health and safety plan used at the Site by all personnel working on-Site. In addition, the SET Environmental, Inc., *Site Specific Health and Safety Plan* will also be used by SET Environmental, Inc., personnel while they are performing baghouse unit removal activities at the Site. A copy of the SET Environmental, Inc., *Site Specific Health and Safety Plan* will be presented to you at the Site on Monday, April 22, 2002.

Please do not hesitate to contact me at 630-990-0300, Ext. 251 if you have any comments or questions in regards to the baghouse dust removal activities.

Sincerely,

Frank Capic
Staff Civil Engineer

FC/fc

CC: Joseph R. Podlewski, Jr., Esq. w/Enclosures

Appendix D2
Notice of Removal Activities for Ten Radioactive Wear Indicator Needles and Fallen Asbestos Pipe Insulation

Burns & McDonnell
SINCE 1898

JP-H
File
E1

May 15, 2002

Bradley Benning
Environmental Scientist
United States Environmental Protection Agency
Superfund Division Response Section 2
SE-5J
77 West Jackson Blvd.
Chicago, IL 60604-3590

Notice of Removal Activities for Ten Radioactive Wear Indicator Needles and Fallen Asbestos Pipe Insulation
J. Pitt Melt Shop Site
3151 South California Avenue
Chicago, Illinois
USEPA Region 5 Docket No. V-W-01-C-653

Dear Mr. Benning:

As identified in the Seventh Monthly Progress Report dated April 17, 2002, this letter is to notify the Unites States Environmental Protection Agency (USEPA) of the implementation of the removal of ten radioactive wear indicator needles (Indicator Needles) and fallen asbestos pipe insulation at the captioned site (Site).

The Indicator Needle removal activity will involve the removal of the needles that were placed within a former billet in the west area of the building. As identified in the Second Monthly Progress Report dated November 16, 2002, these Indicator Needles were left on-Site in October 2001 since Radiametrics, Inc. (Radiametrics) determined that Ronan Engineering did not manufacture these Indicator Needles and therefore could not accept them for re-use or disposal.

The asbestos work will involve the removal of fallen asbestos pipe insulation located on the floor of an office area at the northeast portion of the building on the Site. The fallen asbestos pipe insulation is from a pipe located above the office/maintenance area.

The start date of implementing the Indicator Needles removal activity is scheduled for Monday May 20, 2002 at 7:30 am and the fallen asbestos pipe insulation removal activity is scheduled for Tuesday May 21, 2002 at 8 am. Burns & McDonnell anticipates the Indicator Needles and fallen asbestos pipe insulation removal activity each to be completed within one working day at the Site.

2601 West 22nd Street
Oak Brook, Illinois 60523-1229
Tel: 630 990-0300
Fax: 630 990-0301
www.burnsmcd.com

Burns & McDonnell will oversee Radiametrics as it performs the Indicator Needles removal activity. The scope of work to be done by Radiametrics is as follows:

a) Subcontractor travel includes costs for mileage, tolls, etc.

b) Supply two technicians to perform the scope of work at the Site.

c) Remove ten radioactive wear Indicator Needles from within the billet former. Maintain the lead sheeting used to handle the needles and place into appropriate transport container(s), or develop other type of handling equipment to place into transport equipment.

d) Perform leak testing of Indicator Needles on Site prior to placement into transport container.

e) Construct shipping container on Site to comply with applicable White I shipping requirements and at a minimum meet the requirements of 49 Code of Federal (CFR) Regulations parts 173.421 and 173.422

f) Provide competent person(s) specially trained in the safe and proper handling of radioactive materials by and such hazards. The competent person is responsible for posting warning signs, erecting barriers and establishing the safe distance for others.

g) For activities involving the use of radioactive materials, not under license from the Nuclear Regulatory Commission (NRC) a competent person is defined as someone specifically trained in the proper and safe operation of the specific equipment. In the case of materials used under a NRC license, only persons actually licensed, or competent persons under the direction and supervision of the license shall perform such work.

h) Transport Indicator Needles from Site meeting 49 CFR 173.421 if all requirements of 49 CFR 173.421 and 173.422 are met.

i) Transport and dispose or recycle needles at the ThermoMeasuretech facility, located in Round Rock, Texas. Needles will be either disposed or recycled whether they are identified as Cesium-137, Cobalt-60 or other radioactive material.

j) Supply leak testing analysis and certificate of analysis.

k) Provide certificate indicating acceptance and identifying whether Indicator Needles are disposed or recycled at ThermoMeasuretech's facility.

l) Provide summary letter indicating tasks performed and results upon completion of above stated scope of work.

Burns & McDonnell will oversee EHC Industries, Inc., as it performs the removal of the fallen asbestos pipe insulation. The scope of work to be done by EHC Industries, Inc., is as follows:

a) Subcontractor travel including costs for mileage, tolls, etc.

b) Provide properly trained and licensed personnel to remove and containerize the fallen asbestos pipe insulation.

c) Transport and dispose of fallen asbestos pipe insulation at a facility licensed to accept asbestos materials.

d) Provide certificate indicating acceptance of the asbestos materials and identifying the disposal facility.

In accordance with Section V.1 of the Administrative Order by Consent, EHC Industries, Inc., qualifications are enclosed with this notice. The Burns & McDonnell *Site Health and Safety Plan* prepared July 2001 will be the health and safety plan used at the Site by all personnel working on-Site.

Please do not hesitate to contact me at 630-990-0300, Ext. 251 if you have any comments or questions in regards to the Indicator Needles and fallen asbestos pipe insulation removal activities.

Sincerely,

Frank Capic
Staff Civil Engineer

FC/fc

cc: Joseph R. Podlewski, Jr., Esq. Schwartz, Cooper, Greenberger and Krauss
Lawrence Fieber, Burns & McDonnell

EHC INDUSTRIES

MISSION STATEMENT

Since 1985, EHC Industries, Inc. has been a leader in the demanding field of environmental remediation, working on projects ranging from $1,000 to over $2,000,000. With an immaculate record, backed by "true occurrence" insurance, and the continuous education and certification of our employees, EHC Industries is committed to providing our customers with the highest quality environmental services. In a field as sensitive as asbestos, lead and PCB removal, we are dedicated to maintaining a reputation of high integrity while achieving a low profile.

We will carry out our mission efficiently, safely and in an environmentally responsible manner.

Sam Ottolino Steve Wanaski, Jr. Frank Ottolino

EHC Industries, Inc./ 366 Hollow Hill Drive/ Wauconda, Illinois 60084 / (847) 526-9515 / Fax (847) 526-6899

EHC INDUSTRIES

SERVICES

◆ Asbestos Service

- Identification
- Encapsulation
- Budget Cost Estimating
- 2 hr. Awareness Training
- Removal
- Enclosure
- Specifications
- Management Plans
- Repair
- Disposal
- Demolition
- Surveys/Inspection

◆ Lead Based Paint and PCB Services

- Identification
- Encapsulation
- Removal
- Demolition
- Disposal
- Surveys/Inspection

EHC Industries, Inc./ 366 Hollow Hill Drive/ Wauconda, Illinois 60084 / (847) 526-9515 / Fax (847) 526-6899

EHC INDUSTRIES

PARTIAL CLIENT LIST

- Morton
- Mobil Oil
- Nabisco Brands
- University of Illinois
- Northbrook School
- Chicago Corp.
- University of Chicago
- Sisters of St. Joseph
- South Suburban Hospital
- Royal Glen
- Motorola
- St. Michael's Church
- General Electric
- Sharp Electronics
- Sherman Hospital
- Two First National – Chicago
- Spertus College
- Honeywell
- IIT Research
- Northern Illinois University
- Clark Oil
- CHA – Rockwell Gardens
- M&M Mars
- Glencoe Schools
- General Motors
- Palmer House
- Rush-St. Luke's Hospital
- Sharp Concrete
- Dirksen Federal Building
- Argonne National Laboratories
- Naperville Schools
- Chicago City Hall
- Marshall Fields
- Carson Pirie Scott
- Morris Hospital
- Orchestra Hall
- Germania Building
- Aurora University
- Holy Family Hospital
- Institute of Gas Technology
- Nalco Chemical
- Aetna Bank
- GD Searle
- Household Bank
- UOP
- Victory Memorial Hospital
- 444 West Jackson
- John Hancock Center
- 1 East Wacker
- First Chicago Bank
- University of Chicago
- Viobin
- 310 South Michigan
- Chicago Theater
- Amoco Research Center
- Marina Towers
- Gottlieb Hospital
- Quaker Oats
- Crosfield Catalyst
- Northwestern Steel and Wire

EHC Industries, Inc./ 366 Hollow Hill Drive/ Wauconda, Illinois 60084 / (847) 526-9515 / Fax (847) 526-6899

EHC INDUSTRIES

EHC HISTORY

Since 1985, EHC Industries, Inc. has been an environmental contractor at the forefront of a dynamic industry dealing specifically with the assessment and proper remediation of asbestos, lead and PCBs. Established to solve the difficult problems of regulatory compliance for our clients, we continue to put service and safety at the top of our list of objectives.

EHC Industries, Inc. set out to achieve its place in the industry by establishing working relationships with commercial and industrial building owners, facility operations managers, construction managers, architects, engineers and environmental consultants. Our projects have ranged from $1,000 to over $2,000,000 and have been successfully critiqued by the top consultants in the industry as well as government regulatory agencies.

EHC Industries, Inc. believes in providing service from a company that is properly equipped and professionally staffed. We have compiled a talented, qualified staff consisting of Field Technicians, Supervisors, Project Coordinators, Sales, Estimating, Project Management, Safety, Customer Support and Union Personnel that take pride in the quality of work and our ever growing list of satisfied customers.

With the support of a quality staff, EHC Industries, Inc. continually strives to remain the leader in an ever-changing industry and to uphold our unblemished reputation for professional environmental contracting service.

Appendix D3
Work Plan Letter for Additional Surface Soil Sample Collection

Burns & McDonnell
SINCE 1898

August 16, 2002

Bradley Benning
Environmental Scientist
United States Environmental Protection Agency
Superfund Division Response Section 2
SE-5J
77 West Jackson Blvd.
Chicago, IL 60604-3590

RE: Work Plan Letter for
Additional Surface Soil Sample Collection
J. Pitt Melt Shop
3151 South California, Chicago, Illinois

Dear Mr. Benning:

Burns & McDonnell is pleased to submit this Work Plan Letter for additional surface soil sample collection at the J. Pitt Melt Shop site (Site). This Work Plan Letter is an addendum to the USEPA approved Site Investigation/Removal Work Plan (SI/RA Work Plan) and describes our plan to collect additional surface soil samples for analysis of hexavalent chromium (chromium VI) and perform air monitoring at the Site during surface soil sampling. These data will then be used to revise the surface soil risk assessment for the Site.

Burns & McDonnell's preliminary findings of the streamlined risk assessment of surface soil indicate that select areas of the Site may present a risk to future receptor populations. M.S. Kaplan Company recently authorized Burns & McDonnell to proceed with the collection and analyses of additional surface soil samples and additional air monitoring. Burns & McDonnell plans to use the additional analytical data in conjunction with the existing sampling data to complete the streamlined risk assessment for surface soil at the Site.

Burns & McDonnell will collect surface soil samples from sections, as identified in the SI/RA Work Plan. One composite surface soil sample will be collected from each section. The sections identified are: 1A, 1B, 1C, 2D, 2H, 2I, 3A, 3B, 3C, 3D, 3E, 3F and 3G within the building on the Site. In addition, Burns & McDonnell will collect surface soil samples near the soil probe GP-1 and at slag piles WP-1 and WP-2. Figure 1 identifies the location of the sections, soil probe, and slag piles for investigation. Burns & McDonnell will collect the composite samples from the sections as follows:

- Divide each section into four equal quadrants.
- Collect one grab sample from each of the four quadrants of the section.
- Mix the four grab samples to form a composite sample that represents each section.

2601 West 22nd Street
Oak Brook, Illinois 60523-1229
Tel: 630 990-0300
Fax: 630 990-0301
www.burnsmcd.com

Burns & McDonnell will collect the samples as described in the USEPA approved SI/RA Work Plan. Burns & McDonnell will collect the surface soil samples using a one-foot length sampling trier or trowel inserted into the material at a 0 to 45-degree angle in order to minimize spillage of sample material. Once a core of the material is withdrawn, Burns & McDonnell will transfer the sample into a sample container with the aid of a stainless steel spatula and will label and transfer samples to a laboratory for analysis of chromium VI. Burns & McDonnell will record visual observations of soil type and condition in a field logbook. Visual classification will include text descriptions of soils in accordance with Unified Soil Classification System (USCS) guidelines. In addition, Burns & McDonnell will include principal and minor constituents, observed moisture (if any), soil color and soil texture. Burns & McDonnell will designate the soil samples with a unique identifier. Burns & McDonnell will place samples in a cooler, packed with ice, and ship them to a subcontracted laboratory under proper chain-of-custody procedures. After completion of surface soil coring activities, Burns & McDonnell will backfill the core holes with to match the existing surface material.

Burns & McDonnell will adhere to the July 2001 Health and Safety Plan, and Amendment Number 1 to the Health and Safety Plan during the additional surface soil investigation. Prior to collecting the surface soil samples, Burns & McDonnell will collect air data using a MiniRam dust meter. Burns & McDonnell will use Level C personal protective equipment (PPE) while collecting the background samples outside of the building on the Site, and at the identified surface soil sampling sections inside and outside of the building. Burns & McDonnell will collect air data at the breathing level while standing, at one-foot above the surface while standing, and while walking through the sampling sections. Burns & McDonnell will then establish which areas of the site require Level C PPE during surface soil collection. In the Amendment Number 1 to the Health and Safety Plan, Burns & McDonnell established a measurement of 0.5 parts per million (ppm) or greater as the dust level threshold requiring use of Level C PPE. With dust monitoring readings below 0.5ppm, Level D, or modified Level D PPE is deemed adequate. Burns & McDonnell will proceed, wearing appropriate PPE, to collect the surface soil samples at the sample points. Burns & McDonnell will also maintain air monitoring during sampling activities.

Burns & McDonnell will combine the results of the surface soil analysis with the existing sampling data to complete the streamlined risk assessment. Since the previous analytical data represent total chromium, the additional chromium VI data will be used to determine the percentage of the total chromium results that are attributable to chromium VI. In this manner, Burns & McDonnell can specifically evaluate representative trivalent and hexavalent chromium concentrations at the site. Burns & McDonnell will use the additional air monitoring data to identify site-specific dust concentrations for evaluation of dust inhalation.

Burns & McDonnell will submit to the USEPA the streamlined risk assessment evaluating the surface soil at the Site. Burns & McDonnell will evaluate the potentially exposed populations for future industrial/commercial workers and future temporary excavation workers. Burns & McDonnell will evaluate the exposure routes of dermal contact, inhalation, and ingestion. Burns & McDonnell will submit the risk assessment tables in USEPA's RAGS Part D format.

Please contact either Mr. Capic at (630) 990-0302, extension 251, if you have any comments or questions concerning this Work Plan Letter. Please notify the undersigned of USEPA approval of this Work Plan Letter for additional surface soil collection.

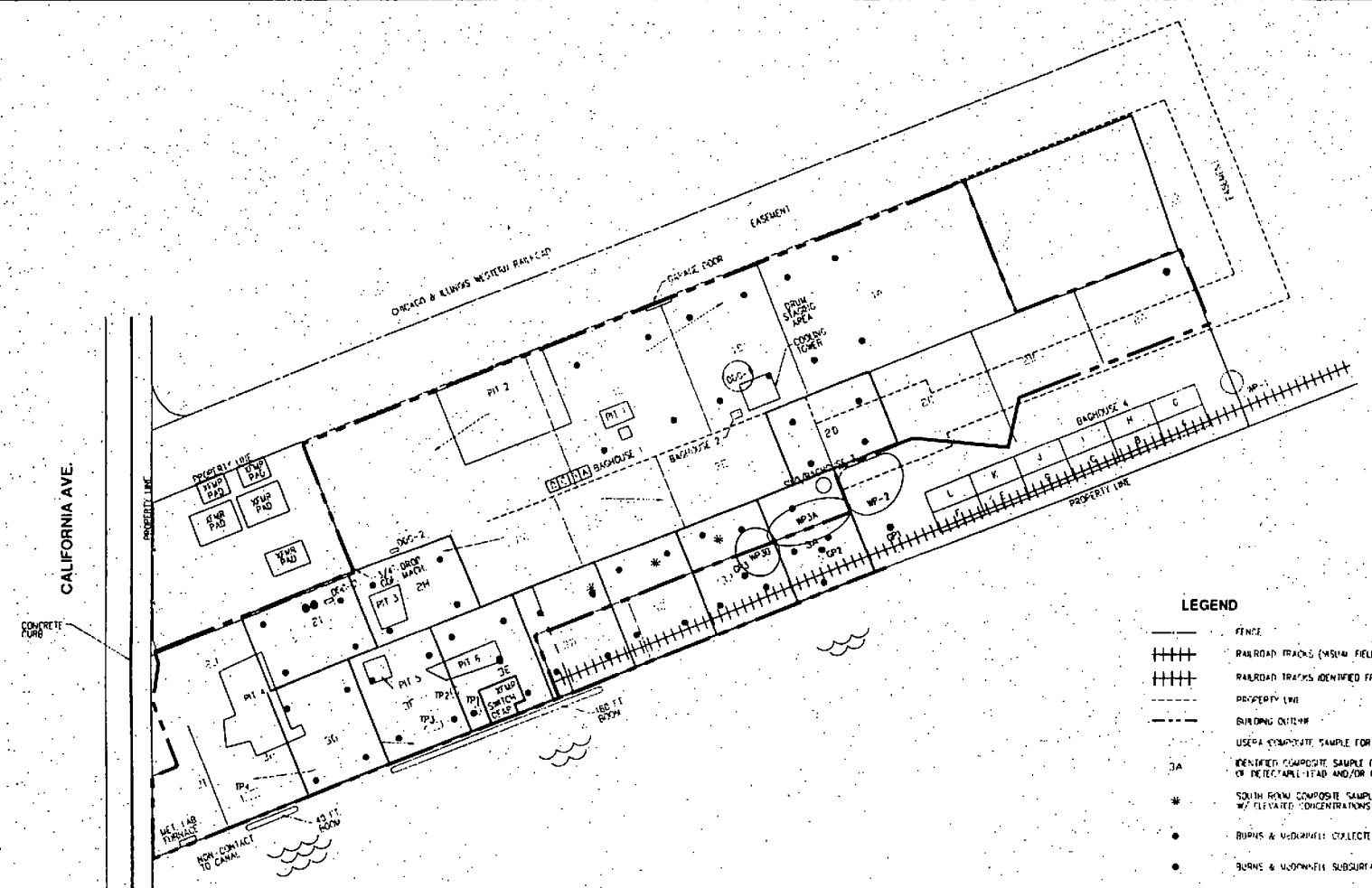
Sincerely,

Frank Capic, P.E.
Project Coordinator

Lawrence Louis Fieber, PG
Project Manager

LLF:FC/dep

Enclosure
CC: Stuart P. Hersh, Esq. w/Enclosures
Joseph R. Podlewski, Jr., Esq. w/Enclosures
Susan T. Morakalis, Esq. w/Enclosures



LEGEND

- FENCE
- RAILROAD TRACKS (VISUAL FIELD OBSERVATIONS)
- RAILROAD TRACKS IDENTIFIED FROM PLAT OF SURVEY
- PROPERTY LINE
- BUILDING OUTLINE
- USEPA COMPOSITE SAMPLE FOR XRF FIELD SCREENING
- 3A — IDENTIFIED COMPOSITE SAMPLE FOR XRF FIELD SCREENING WITH ELEVATED CONCENTRATIONS OF DETECTABLE LEAD AND/OR CHROMIUM AND/OR CADMIUM
- SOUTH ROOM COMPOSITE SAMPLE LOCATION W/ ELEVATED CONCENTRATIONS OF CHROMIUM
- BURNS & McDONNELL COLLECTED AND PROPOSED SURFACE SOIL SAMPLE LOCATIONS
- BURNS & McDONNELL SUBSURFACE SAMPLE LOCATION
- BURNS & McDONNELL TEST EXCAVATION LOCATIONS
- BRUFT CASTLE MOLD
- WP-1/WP-2 — SOIL PILE SAMPLE
- WP-3A/WP-3B — DUST/DEBRIS PILE SAMPLE
- DDC-1/DDC-2 — DRY DAMAGED COCOS

NORTH

40 0 40 80
SCALE IN FEET

NOTE:
PLAN ADAPTED FROM AUGUST 16, 1993 CITY WATER PIPING PLAN BY MECA ENGINEERING CORP.

no.	date	by	revision

Burns & McDonnell
ENGINEERS ARCHITECTS CONSULTANTS

date 8-15-02 detailed SA
designed checked

J. PITT MELT SHOP
3151 S. CALIFORNIA AVE.
CHICAGO, ILLINOIS

Figure 1
SAMPLE LOCATION MAP

project J. PITT MELT SHOP contract
drawing rev.
sheet of sheets

Appendix D4
Notice for Drummed Waste & Smaller Containers Removal Activity

File Copy
E1

Burns & McDonnell
SINCE 1898

November 5, 2002

Bradley Benning
Environmental Scientist
United States Environmental Protection Agency
Superfund Division Response Section 2
SE-5J
77 West Jackson Blvd.
Chicago, IL 60604-3590

Notice for Drummed Waste & Smaller Containers Removal Activity
J. Pitt Melt Shop Site
3151 South California Avenue
Chicago, Illinois
USEPA Region 5 Docket No. V-W-01-C-653

Dear Mr. Benning:

As identified in the Thirteen Monthly Progress Report dated October 16, 2002, this letter is to notify the Unites States Environmental Protection Agency (USEPA) of the implementation of the drummed waste and smaller container removal activity at the captioned Site. This task will involve the removal of the identified 196 drums and approximately 293 smaller containers located on the drum staging area in the northern area of the building on Site. This task also includes the removal of thirteen (13) 55-gallon drums of oil-saturated booms located on the southeast area of the Site. The scope of work for this task will include additional characterization and sampling of drums, laboratory analysis of select drum samples, packaging, and transporting and disposing of drums, miscellaneous containers and small containers.

The identified 196 drums range in size from 20 gallons to 175 gallons, and the 293 smaller containers range in size from 1 ounce to 5 gallons for lab packing. The 293 smaller containers also include seven gas cylinders. Attachments A & B include an inventory listing the 196 drums by visual description of drum contents and the 293 smaller containers. Drums and smaller containers identified in the inventory are preliminarily grouped in the following categories:

- Apparent non-PCB impacted oil containing drums,
- Apparent PCB-impacted oil containing drums,
- Hazardous waste liquids,
- Non-hazardous waste liquids,
- Hazardous waste solids,
- Non-hazardous waste solids.

Attachment C includes an inventory of the drums to the preliminary categories as identified by SET Environmental, Inc. (SET), the subcontractor selected to perform the additional characterization, packaging, transportation and disposal of the drummed and containerized waste.

2601 West 22nd Street
Oak Brook, Illinois 60523-1229
Tel: 630 990-0300
Fax: 630 990-0301
www.burnsmcd.com

In summary, the number of drums preliminarily grouped in the above specified categories are as follows: 88 drums containing suspect non-PCB impacted oil, 10 drums containing suspect PCB impacted oil, 21 drums containing hazardous waste liquids, 35 drums containing non-hazardous waste liquids, 9 drums containing hazardous waste solids, 32 drums containing non-hazardous waste solids. Select drums grouped in these categories will be sampled and submitted to a laboratory for analysis to confirm the appropriate category for disposal. SET and Burns & McDonnell will collect select samples for laboratory analysis.

Upon USEPA approval of this Notice, the start date of implementing the drummed waste and smaller containers removal activity will be provided in a separate memorandum. The start date will be scheduled at least three days prior to implementation. Burns & McDonnell anticipates the initial removal activity will require five working days. A sixth working day, for waste pickup day will occur one to three weeks after completion of the initial removal activities. Attachment D includes the anticipated day-to-day activities for this task.

Burns & McDonnell will oversee SET perform the drummed waste removal activity. The scope of work to be done by SET Environmental is as follows:

a) Conduct a supplemental investigation, if necessary, to categorize the drums, miscellaneous containers, and small containers into waste codes and groups for subcontractor disposal. Provide results to Contractor for review prior to removal and disposal activities.
b) Containerize loose materials to prepare for disposal.
c) Generate manifests upon Contractor review of waste codes and groups.
d) Construct staging area, if necessary, for mixing, handling, or decontamination of waste.
e) Maintain spill control measures during sampling, packaging, removal, transportation, and disposal of waste.
f) Remove, transport and dispose to a facility accepting such waste and other contents identified in the drums, miscellaneous containers, and small containers and contents maintained by identified drums and containers staged in the Drum Staging Area and in the southeast area of the Site.
g) Decontaminate staging area after removal of wastes and deconstruct and remove staging area.
h) Decontaminate and remove empty drums from the Site to local drum reclaimer. Drums not meeting RCRA or DOT compliance will be crushed and placed into roll-off container for non-hazardous disposal.
i) Obtain appropriate local, state and federal permits required to perform removal activities.
j) Supply proper transport and labeling on drum contents.
k) Furnish labor, materials, equipment, and services required for the work detailed in this specification.
l) Air Monitoring during Site activities shall comply with Subcontractor and/or Contractor Health and Safety Plan.

m) Control air emissions during the transfer, overpacking or pumping of drums and contents.

n) Provide copies of manifests and profiles to Contractor five working days prior to start of removal activities. Owner will sign manifests prior to removal activities and return to Burns & McDonnell.

SET indicated the following preliminary list of disposal facilities that may accept the drummed and smaller containerized wastes:

- Oil with no detectable PCB concentrations: Beaver Oil, located at Hutchins, Illinois;
- Oil containing drums with PCB concentrations less than 50 parts per million (ppm): Enviromental Quality (EQ), located at Bellville, Michigan;
- Apparent PCB-impacted oil containing drums greater than 50 ppm: transferred to Onyz located at Fort Washington, Wisconsin for holding, then transferred to Superior Special Services located in Phoenix, Arizona for incineration;
- Hazardous waste liquids & Non-Hazardous waste Liquids: SET located in Houston, Texas;
- Hazardous waste solids: Baghouse Dust to EQ, located at Bellville, Michigan; PCB Capacitors to Mercury Waste Solutions located at Union Grove, Wisconsin; and all remaining hazardous waste solids to SET located in Houston, Texas;
- Non-hazardous/special waste solids: Waste Management Countryside Landfill located in Grayslake, Illinois;
- Lab pack items/gas cylinders: SET located in Houston, Texas; except for smaller container identified as Thorium Nitrate, a suspect radioactive material, to be removed through SET's subcontractor, ADCO Services, Inc. (ADCO), located in Tinley Park, Illinois. ADCO will transport to one of two disposal facilities, either Race Environmental, Inc., located in Memphis, Tennessee or Barnwell located in Barnwell, South Carolina.

Burns & McDonnell anticipates that the Site work will require Modified Level D, which includes: appropriate work clothes; disposable inner nitrile gloves, disposable chemical-resistant clothing, steel toe boots, safety glasses, hard hat, and hearing protection. Some work activities may require upgrade to Level C that includes Modified Level D plus a full-face air purifying respirator. The Burns & McDonnell *Site Health and Safety Plan* prepared July 2001will be the health and safety plan used at the Site by all personnel working on-Site. Due to the observed presence of a trespasser at the Site during surface soil sampling activities in September 2002, Burns & McDonnell includes an amendment to the Health & Safety Plan, included in Attachment E.

In addition, the SET Environmental, Inc., *Site Specific Health and Safety Plan* will also be used by SET Environmental, Inc., personnel while they are performing drummed and smaller container removal activities at the Site. A copy of the SET Environmental, Inc., *Site Specific*

Health and Safety Plan will be presented to you three days prior to the start of the drummed waste and smaller containers removal activity.

If you have any questions concerning this notice for drummed waste & smaller containers removal activity please call Mr. Capic at 630-990-0302, Ext. 251.

Sincerely,

Frank Capic
Staff Civil Engineer
Project Coordinator

Lawrence L. Fieber, P.G.
Senior Consultant
Project Manager

LLF/FC/fc

Enclosures

CC: Stuart P. Hersh, Esq. w/Enclosures
Joseph R. Podlewski, Jr., Esq. w/Enclosures
Susan T. Morakalis, Esq. w/Enclosures

ATTACHMENTS

Attachment A	Drum Inventory
Attachment B	Smaller Container Inventory
Attachment C	Drums & Preliminary Categories
Attachment D	SET's Anticipated Day-to-Day Activities
Attachment E	Health & Safety Plan Amendment

ATTACHMENTS

Attachment A	Drum Inventory
Attachment B	Smaller Container Inventory
Attachment C	Drums & Preliminary Categories
Attachment D	SET's Anticipated Day-to-Day Activities
Attachment E	Health & Safety Plan Amendment

ATTACHMENT A
Drum Inventory

Attachment A is included in the Tables section of the final report.

ATTACHMENT B
Smaller Containers Inventory

Attachment B is included in the Appendix I section of the final report.

ATTACHMENT C
Drums & Preliminary Categories

Table 1
Preliminary Categorization of Drums

Category	#	# / Grp	Drum #	Wastestream Name
Lab pack	1	1	62	(Lab Pack) mineral spirits
	2	2	177	(Lab Pack) oil
Hazardous Liquids	3	1	75	Acids
	4	2	127	Acids
	5	3	131	Acids
	6	4	134	Acids
	7	5	195	Acids
	8	6	36	Acids -or new wastestream depending on volume
Hazardous Solids	9	1	23	Baghouse Dust
	10	2	45	Baghouse Dust
	11	3	46	Baghouse Dust
	12	4	47	Baghouse Dust
	13	5	113	Baghouse Dust
	14	6	115	Baghouse Dust
Hazardous Liquids	15	1	92	Bases
	16	2	130	Bases
	17	3	148	Bases
	18	4	196	Bases
Non-Hazardous Liquids	19	1	84	Grease
	20	2	85	Grease
	21	3	86	Grease
	22	4	87	Grease
	23	5	103	Grease
	24	6	125	Grease
	25	7	170	Grease
Hazardous Liquids	26	1	25	Halogenated Cont. Oil
	27	2	43	Halogenated Cont. Oil
Hazardous Liquids	28	3	31	Hydrochloric Acid
	29	4	32	Hydrochloric Acid
	30	5	33	Hydrochloric Acid
	31	6	34	Hydrochloric Acid
	32	7	35	Hydrochloric Acid
Hazardous Solid	33	1	19	Lead Acid Battery
Non-Hazardous Liquids	34	1	6	Non-Hazardous Waste Liquids
	35	2	12	Non-Hazardous Waste Liquids
	36	3	13	Non-Hazardous Waste Liquids
	37	4	17	Non-Hazardous Waste Liquids
	38	5	18	Non-Hazardous Waste Liquids
	39	6	29	Non-Hazardous Waste Liquids
	40	7	30	Non-Hazardous Waste Liquids
	41	8	38	Non-Hazardous Waste Liquids
	42	9	44	Non-Hazardous Waste Liquids
	43	10	51	Non-Hazardous Waste Liquids
	44	11	55	Non-Hazardous Waste Liquids
	45	12	59	Non-Hazardous Waste Liquids
	46	13	61	Non-Hazardous Waste Liquids
	47	14	64	Non-Hazardous Waste Liquids
	48	15	66	Non-Hazardous Waste Liquids
	49	16	69	Non-Hazardous Waste Liquids
	50	17	83	Non-Hazardous Waste Liquids

Table 1
Preliminary Categorization of Drums

Category	#	# / Grp	Drum #	Wastestream Name
	51	18	89	Non-Hazardous Waste Liquids
	52	19	93	Non-Hazardous Waste Liquids
	53	20	94	Non-Hazardous Waste Liquids
	54	21	95	Non-Hazardous Waste Liquids
	55	22	102	Non-Hazardous Waste Liquids
	56	23	104	Non-Hazardous Waste Liquids
	57	24	105	Non-Hazardous Waste Liquids
	58	25	106	Non-Hazardous Waste Liquids
	59	26	107	Non-Hazardous Waste Liquids
	60	27	154	Non-Hazardous Waste Liquids
	61	28	191	Non-Hazardous Waste Liquids
Hazardous Liquids	62	1	28	Organic Alkalines
	63	2	39	Organic Alkalines
	64	3	132	Organic Alkalines
	65	4	133	Organic Alkalines
Hazardous Solid	66	1	57	PCB Capacitors
Suspect PCB Oil	67	1	27	Suspect PCB Oil
	68	2	56	Suspect PCB Oil
	69	3	70	Suspect PCB Oil
	70	4	73	Suspect PCB Oil
	71	5	74	Suspect PCB Oil
	72	6	139	Suspect PCB Oil
	73	7	140	Suspect PCB Oil
	74	8	150	Suspect PCB Oil
	75	9	175	Suspect PCB Oil
	76	10	184	Suspect PCB Oil
Non-Hazardous Waste Solids	77	1	1	Special Waste Solids
	78	2	3	Special Waste Solids
	79	3	4	Special Waste Solids
	80	4	24	Special Waste Solids
	81	5	37	Special Waste Solids
	82	6	41	Special Waste Solids
	83	7	50	Special Waste Solids
	84	8	58	Special Waste Solids
	85	9	88	Special Waste Solids
	86	10	90	Special Waste Solids
	87	11	108	Special Waste Solids
	88	12	109	Special Waste Solids
	89	13	110	Special Waste Solids
	90	14	114	Special Waste Solids
	91	15	120	Special Waste Solids
	92	16	121	Special Waste Solids
	93	17	122	Special Waste Solids
	94	18	129	Special Waste Solids
	95	19	135	Special Waste Solids
	96	20	136	Special Waste Solids
	97	21	145	Special Waste Solids
	98	22	146	Special Waste Solids
	99	23	151	Special Waste Solids
	100	24	152	Special Waste Solids
	101	25	153	Special Waste Solids

Table 1
Preliminary Categorization of Drums

Category	#	# / Grp	Drum #	Wastestream Name
Non-Hazardous	102	26	161	Special Waste Solids
Waste Solids	103	27	162	Special Waste Solids
	104	28	165	Special Waste Solids
	105	29	166	Special Waste Solids
	106	30	168	Special Waste Solids
	107	31	180	Special Waste Solids
	108	32	183	Special Waste Solids
Hazardous Solid	109	1	182	Toxic Solid
Suspect	110	1	2	Used Oil
Non-PCB Oil	111	2	5	Used Oil
	112	3	7	Used Oil
	113	4	8	Used Oil
	114	5	9	Used Oil
	115	6	10	Used Oil
	116	7	11	Used Oil
	117	8	14	Used Oil
	118	9	15	Used Oil
	119	10	16	Used Oil
	120	11	20	Used Oil
	121	12	21	Used Oil
	122	13	22	Used Oil
	123	14	26	Used Oil
	124	15	40	Used Oil
	125	16	42	Used Oil
	126	17	48	Used Oil
	127	18	49	Used Oil
	128	19	52	Used Oil
	129	20	53	Used Oil
	130	21	54	Used Oil
	131	22	60	Used Oil
	132	23	63	Used Oil
	133	24	65	Used Oil
	134	25	67	Used Oil
	135	26	68	Used Oil
	136	27	71	Used Oil
	137	28	72	Used Oil
	138	29	76	Used Oil
	139	30	77	Used Oil
	140	31	78	Used Oil
	141	32	79	Used Oil
	142	33	80	Used Oil
	143	34	81	Used Oil
	144	35	82	Used Oil
	145	36	91	Used Oil
	146	37	96	Used Oil
	147	38	97	Used Oil
	148	39	98	Used Oil
	149	40	99	Used Oil
	150	41	100	Used Oil
	151	42	101	Used Oil
	152	43	111	Used Oil

Table 1
Preliminary Categorization of Drums

Category	#	# / Grp	Drum #	Wastestream Name
Suspect	153	44	112	Used Oil
Non-PCB Oil	154	45	116	Used Oil
	155	46	117	Used Oil
	156	47	118	Used Oil
	157	48	119	Used Oil
	158	49	123	Used Oil
	159	50	124	Used Oil
	160	51	126	Used Oil
	161	52	128	Used Oil
	162	53	137	Used Oil
	163	54	138	Used Oil
	164	55	141	Used Oil
	165	56	142	Used Oil
	166	57	143	Used Oil
	167	58	144	Used Oil
	168	59	147	Used Oil
	169	60	149	Used Oil
	170	61	155	Used Oil
	171	62	156	Used Oil
	172	63	157	Used Oil
	173	64	158	Used Oil
	174	65	159	Used Oil
	175	66	160	Used Oil
	176	67	163	Used Oil
	177	68	164	Used Oil
	178	69	167	Used Oil
	179	70	169	Used Oil
	180	71	171	Used Oil
	181	72	172	Used Oil
	182	73	173	Used Oil
	183	74	174	Used Oil
	184	75	176	Used Oil
	185	76	178	Used Oil
	186	77	179	Used Oil
	187	78	181	Used Oil
	188	79	185	Used Oil
	189	80	186	Used Oil
	190	81	187	Used Oil
	191	82	188	Used Oil
	192	83	189	Used Oil
	193	84	190	Used Oil
	194	85	192	Used Oil
	195	86	193	Used Oil
	196	87	194	Used Oil

ATTACHMENT D
SET's Anticipated Day-To-Day Activities

SCHEDULE OF ACTIVITIES, ANTICIPATED BASED ON ARTICLE 8 – PROJECT UNDERSTANDING

DAY 1

- Four (4) man crew mobilizes to site with materials and equipment, including bobcat with fork extensions, generator, lights, etc.
- Portable sanitation unit delivered.
- Forty foot (40') trailer for empty drum accumulation delivered.
- Drum staging area established.
- Material management area(s) established.
- Two (2) man crew accomplishes grouping and composite sampling of oil drums; same crew obtains individual samples of 11 drums of suspect PCB oil/liquid
- SET Environmental, Inc. courier pickups composite samples from site and directly delivers to SET Environmental, Inc.'s contracted third party laboratory
- Other 2 man crew, comprising at minimum one (1) field chemist, begins segregation of lab pack materials with special emphasis on oil or oil-like materials.
- Compositing of oil and oil-like materials from lab pack material grouping into three (3) 55 gallon drums; transfer of these drums to oil drum handling area for purposes of including in oil drum grouping and composite sampling event.
- Deliver and stage thirty (30) cubic yard roll-off box for "Special Waste Solids/Non-Hazardous Waste Solids" accumulation.

DAY 2

- 2 man crew, comprising at minimum 1 field chemist, continues segregation of lab pack materials, with special emphasis on identifying materials that can be bulked up and handled with drum wastestreams: organic alkalines, organic acids, acids, bases, non-hazardous waste solids, etc.
- Other two man crew begins bulking, compositing, repackaging, etc. of materials identified in process above in addition to identifying bulk drums of the same.
- Begin placing identified drums in the established drum staging area in a manner that identifies drums per wastestream, i.e., baghouse dust drums with baghouse dust drums in a distinct row separate from other wastestreams, etc.
- Empty drum handling as necessary.

DAY 3

- Gas cylinder specialist dispatched to site to work with field chemist in obtaining sample of unknown cylinder; package, label, mark, profile, manifest all other cylinders; gas cylinder specialist returns to SET corporate offices and submits sample of unknown gas to internal laboratory.
- SET's third party vendor conducts packaging and removal of radioactive thorium nitrate.

- Project Manager and two man crew continue identification, consolidation/packaging, and staging of bulk containers/drums of wastestreams with special emphasis on consolidation of like materials into totes and placement of solid material via bobcat into roll off box
- Empty drum handling as necessary.
- Results from PCB analysis obtained for isolation of any impacted drums.
- Final staging of oil drums for pumping into tanker finished.

DAY 4

- SET Environmental, Inc.'s 6000 gallon tanker arrives and two man crew assists driver in pumping all identified oil drums; tanker proceeds directly to local oil recycling facility for offloading
- Empty drums handled with assist from bobcat into emtpy drum trailer.
- Lab Packing to continue with special emphasis on handling of special class materials such as: unknowns, picric acid, mercury, etc.
- Continuation of bulking/consolidation/repackaging activities with subsequent drum identification and staging.

DAY 5

- Field Chemist receives results of identification analysis on unknown cylinder and accomplishes labelling, marking, and manifesting of cylinder accordingly.
- All lab packs are finished with completion of packing inventories that identify all RCRA waste codes and assigns proper DOT shipping description; labelling, marking and manifesting of the same is completed.
- All necessary representative sample(s) are obtained from identified and staged wastestreams.
- Bulk drums and containers from identified wastestreams are marked and labelled according to DOT regulations where applicable.
- Site is decommisioned; all unused materials and equipment to be returned to SET yard.

PICKUP DAY

- SET driver and rig pickups up roll-off box of non-hazardous solids and directly delivers to local landfill.
- Empty drum trailer is picked up and directly transported to local drum reclaimer.
- SET Project Manager and field chemist complete labelling and marking in accordance with DOT regulations of all containerized waste materials.
- SET Project Manager and field chemist pickup all lab pack and gas cylinders in 24' box truck
- SET Project Manager and field chemist assist SET driver in loading remaining containerized wastes into 88-drum capacity SET trailer for transportation back to SET facility pending final transportation to TSDF.

ATTACHMENT E
Health & Safety Plan Amendment

Attachment E is included as a portion of Appendix E of the final report.